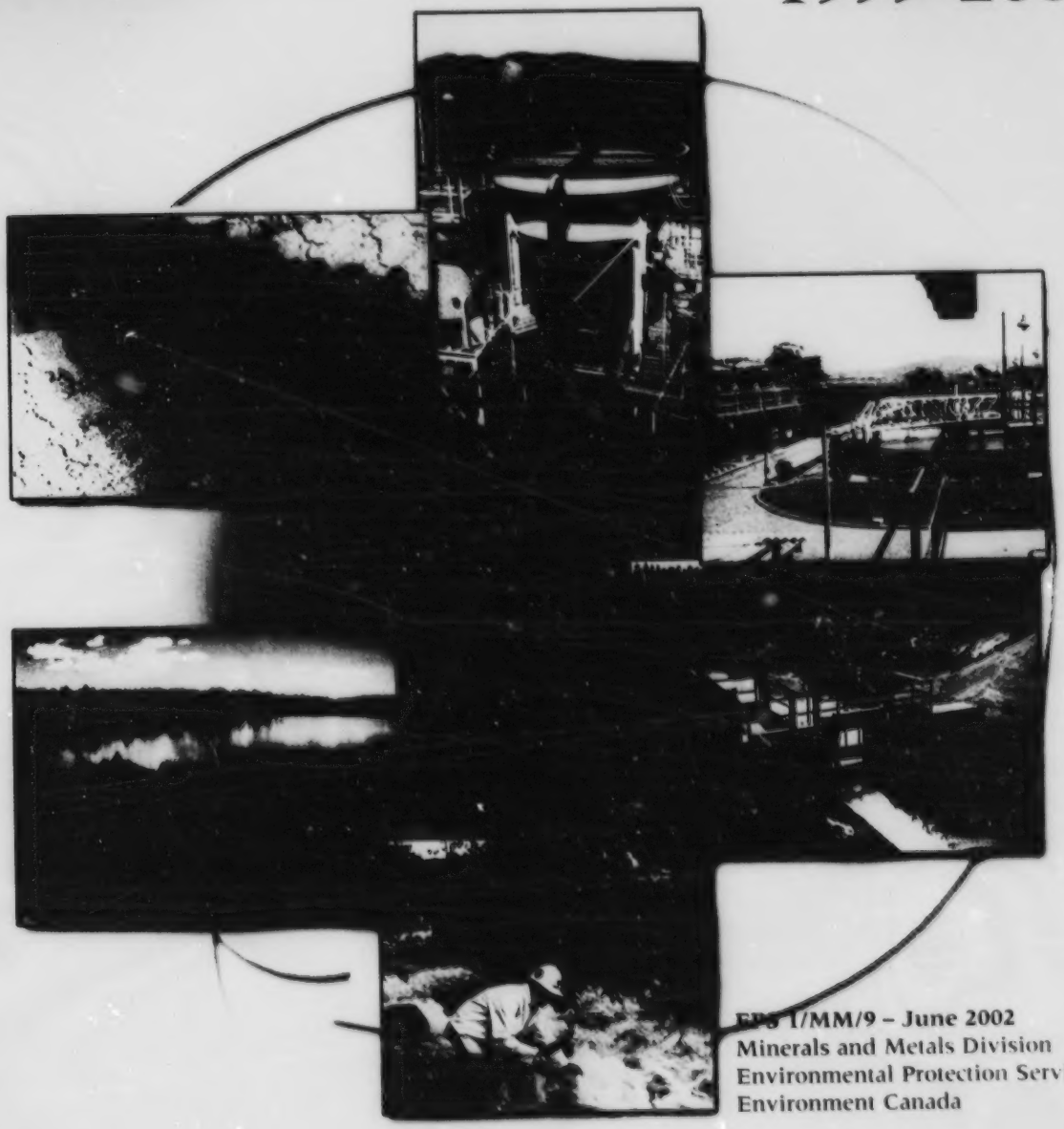
PREVENTION AND CONTROL

In the Canadian Metal Mining Industry

1999–2000



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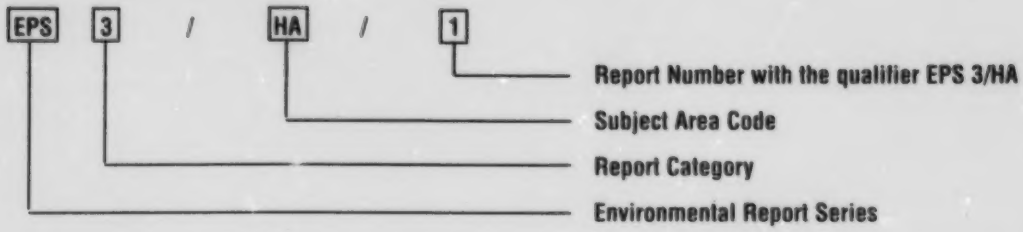

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Status Report on WATER POLLUTION PREVENTION AND CONTROL

in the Canadian Metal Mining Industry

1999–2000

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The data used in this report were obtained principally through cooperative arrangements between the federal and provincial environment agencies. The data were consolidated from several sources by Environment Canada staff and are based on samples collected and analyzed by mining companies and reported to provincial, territorial and federal agencies.

ABSTRACT

This report summarizes the performance of Canadian metal mines with respect to selected standards prescribed by the *Metal Mining Liquid Effluent Regulations* (MMLER) and the associated Metal Mining Liquid Effluent Guidelines (MMLEG) in 1999 and 2000. This is the sixth in a series of reports that have been published by Environment Canada since 1982.

More information on the MMLER and related guidance documents is available on Environment Canada's Green Lane at www.ec.gc.ca/nopp/metals/english/index.cfm.

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SUMMARY

This report summarizes the performance of Canadian metal mines with respect to the *Metal Mining Liquid Effluent Regulations* (MMLER) and the associated Metal Mining Liquid Effluent Guidelines (MMLEG) in 1999 and 2000. This is the sixth in a series of reports that have been published by Environment Canada since 1982.

The report is based on an analysis of monitoring data reported by mine operators to federal, provincial and territorial regulatory authorities. For the purposes of this report, performance was based on an analysis of monthly effluent quality data. Mines subject to the regulations were considered to meet the Monthly Effluent Quality Standards (MEQS) for a given month if all effluent discharges complied with the maximum authorized monthly mean concentrations for that month. Similarly, mines subject to the guidelines were considered to meet the MEQS for a given month if all effluent discharges conformed with the monthly mean concentration objectives for that month. Performance for the year was based on the percentage of operational months during which a mine met the MEQS.

In 1999, a total of 61 metal mines operating in Nunavut and all provinces except Alberta, Nova Scotia and Prince Edward Island were subject to the MMLER and associated guidelines. Of the 30 metal mines that were subject to the regulations, 21 achieved 100% compliance with the MEQS. Three regulated mines that did not discharge effluents during 1999 were excluded from this performance assessment. The overall rate of compliance with the MEQS was 97.4% for regulated mines. Of the 31 metal mines that were subject to the guidelines, 22 achieved 100% of the MEQS. The overall rate of achievement with respect to the MEQS was 93.5% for guideline mines.

In 2000, a total of 59 metal mines operating in Nunavut and all provinces except Alberta, Nova Scotia and Prince Edward Island were subject to the MMLER and associated guidelines. Of the 28 metal mines that were subject to the regulations, 18 achieved 100% compliance with the MEQS. Five regulated mines that did not discharge effluents during 2000 were excluded from this performance assessment. The overall rate of compliance with the MEQS was 96.6% for regulated mines. Of the 31 metal mines that were subject to the guidelines, 16 achieved 100% of the MEQS. The overall rate of achievement with respect to the MEQS was 94.6% for guideline mines.

This report identifies the mines that did not achieve full compliance or conformance with the MEQS in 1999 and 2000. The major causes of underperformance were elevated concentrations of zinc and total suspended matter (TSM) in 1999 and of nickel and TSM in 2000.

A comparative summary of the overall achievement of mines with respect to the MEQS for 1998, 1999 and 2000 is presented in Table 1.

Table 1: Comparative Summary of Achievement for 1998, 1999 and 2000

	1998[1]	1999	2000
Overall Achievement of MEQS by Regulated Mines	97.3%	97.4%	96.6%
Overall Achievement of MEQS by Guideline Mines	92.3%	93.5%	94.6%

(1) Environment Canada, *Status Report on Water Pollution Control in the Canadian Metal Mining Industry 1998*, EPS 1/MM/6, March 2001.

SOMMAIRE

Le présent rapport résume la performance des mines canadiennes de métaux en 1999 et 2000 à l'égard du Règlement sur les effluents liquides des mines de métaux (RELMM) et du document qui l'accompagne, les Lignes directrices concernant les effluents liquides des mines de métaux (LDELMM). Il s'agit du sixième rapport de ce genre publié par Environnement Canada depuis 1982.

Le rapport est fondé sur l'analyse des données de contrôle communiquées par les exploitants de mines aux organismes fédéraux, provinciaux et territoriaux de réglementation. Aux fins du présent document, la performance a été évaluée en fonction de l'analyse des données mensuelles sur la qualité des effluents. On a jugé que les mines assujetties au Règlement étaient conformes aux normes mensuelles de qualité des effluents (NMQE) pour un mois donné si tous les rejets d'effluents ne dépassaient pas la moyenne mensuelle des concentrations maximales autorisées pour ce mois. De même, on a jugé que les mines assujetties aux Lignes directrices satisfaisaient aux NMQE pour un mois donné si tous les rejets d'effluents rencontraient les objectifs relatifs aux concentrations moyennes mensuelles pour ce mois. La performance annuelle a été fondée sur le pourcentage de mois d'exploitation pendant lesquels une mine a satisfait aux NMQE.

En 1999, 61 mines de métaux exploitées au Nunavut et dans toutes les provinces, à l'exception de l'Alberta, de la Nouvelle-Écosse et de l'Île-du-Prince-Édouard, étaient assujetties au RELMM et aux lignes directrices afférentes. Des 30 mines de métaux assujetties au Règlement, 21 se sont conformées aux NMQE dans une proportion de 100 %. Trois mines qui n'avaient pas rejeté d'effluent en 1999 ont été exclues de la présente évaluation de la performance. Pour les mines assujetties au Règlement, le pourcentage global de conformité aux NMQE a été de 97,4 %. Des 31 mines de métaux assujetties aux Lignes directrices, 22 ont satisfait aux NMQE dans une proportion de 100 %. Pour ces mines, le pourcentage global de satisfaction aux NMQE a été de 93,5 %.

En 2000, 59 mines de métaux exploitées au Nunavut et dans toutes les provinces, à l'exception de l'Alberta, de la Nouvelle-Écosse et de l'Île-du-Prince-Édouard, étaient assujetties au RELMM et aux lignes directrices afférentes. Des 28 mines de métaux assujetties au Règlement, 18 se sont conformées aux NMQE dans une proportion de 100 %. Cinq mines qui n'avaient pas rejeté d'effluent en 2000 ont été exclues de la présente évaluation de la performance. Pour les mines assujetties au Règlement, le pourcentage global de conformité aux NMQE a été de 96,6 %. Des 31 mines de métaux assujetties aux Lignes directrices, 16 ont satisfait aux NMQE dans une proportion de 100 %. Pour ces mines, le pourcentage global de satisfaction aux NMQE a été de 94,6 %.

Le présent rapport fait état des mines qui ne se sont pas conformées ou qui n'ont pas satisfait aux NMQE en 1999 et 2000. Les principales causes de cette contre-performance ont été les concentrations élevées de zinc et de matières totales en suspension (MTS) en 1999, et de nickel et de MTS en 2000.

Le tableau 1 présente un résumé comparatif du pourcentage global de satisfaction des mines aux NMQE en 1998, 1999 et 2000

Tableau 1 : Résumé comparatif de performance pour 1998, 1999 et 2000

	1998	1999	2000
Performance globale de conformité aux NMQE par les mines assujetties au règlement	97,3 %	97,4 %	96,6 %
Performance globale de conformité aux NMQE par les mines assujetties aux lignes directrices	92,3 %	93,5 %	94,6 %

(1) Environnement Canada, *Rapport d'étape sur la dépollution de l'eau dans l'industrie canadienne des mines de métaux, 1998*, SPE 1/MM/6, mars 2001.

1.0 INTRODUCTION

This report summarizes the performance of Canadian metal mines with respect to the *Metal Mining Liquid Effluent Regulations* (MMLER) and the associated Metal Mining Liquid Effluent Guidelines (MMLEG) in 1999 and 2000. This is the sixth in a series of reports that have been published by Environment Canada since 1982.

The *Fisheries Act* provides the primary legislative authority for federal water pollution control programs. Subsection 36(3) of the *Fisheries Act* prohibits the deposit of deleterious substances into waters frequented by fish, unless authorized by regulations. The MMLER were passed in February 1977 under the *Fisheries Act*. The regulations apply to new, expanded and reopened metal mines but not to gold mines using the cyanidation process as defined in the regulations. Guidelines were published at the same time to establish effluent quality objectives for all other metal mines that were in operation prior to the promulgation of the MMLER.

Environment Canada administers and monitors compliance with the MMLER and achievement of the MMLEG. The regulatory requirements are typically implemented through licences or permits issued by provinces or federal agencies, but in some cases there may be direct regulatory involvement by Environment Canada. Cooperative arrangements with other government agencies are important elements in Environment Canada's pollution prevention control programs. Inspections are also conducted by staff of Environment Canada in all regions.

An overview of the MMLER and the MMLEG and their current application to Canadian metal mines is presented in Section 2.

The status of individual mines in meeting the Monthly Effluent Quality Standards (MEQS) of the regulations and guidelines in 1999 and 2000 is reviewed in Section 3.

2.0 Metal Mining Liquid Effluent Regulations (MMLER) and Guidelines (MMLEG)

The MMLER, the MMLEG, an Environmental Code of Practice for Mines and Explanatory Notes were published by Environment Canada in 1977 in a single report entitled *Metal Mining Liquid Effluent Regulations and Guidelines* (EPS 1-WP-77-1). The legal reference to the regulations is (the) *Consolidated Regulations of Canada 1978*, Chapter 819 (Government of Canada, 1978).

The MMLER prescribe authorized concentration limits for deleterious substances in mine effluents that are discharged to waters frequented by fish. The limits are based on "best practicable technology" as determined by a state-of-the-art review by a joint federal-provincial-industry task force. The regulated parameters are arsenic, copper, lead, nickel, zinc, total suspended matter (TSM), radium-226 and pH. The regulations apply to new, expanded and reopened metal mines but do not apply to gold mines using the cyanidation process (as defined in the MMLER).

In response to a commitment to "update and strengthen" the MMLER in the Government of Canada's 1990 environmental policy Environment Canada held a multi-stakeholder consultative workshop in November 1992 to identify issues that should be addressed. One of the workshop's recommendations was to assess the known aquatic effects of mining in Canada through what was subsequently identified as the "AQUAMIN" process.

The AQUAMIN process was initiated in 1993 to determine the effectiveness of the MMLER by assessing existing information on aquatic effects in Canada and to make recommendations on:

(i) amendments to the MMLER and the federal regulatory framework;

(ii) the design of an Environmental Effects Monitoring (EEM) program for mining to identify effects in the aquatic environment; and

(iii) information gaps requiring further research.

The AQUAMIN process was carried out by a multi-stakeholder group that included representatives from the federal government, provinces, industry, and environmental and Aboriginal organizations. The process reviewed existing (post-1985) site-specific data and reports on the effects of mine effluents on the receiving environment to assess the efficacy of the MMLER in protecting the aquatic environment. The key recommendations of the April 1996 final report of AQUAMIN were as follows:

(i) to revise the MMLER to ensure a consistent national effluent quality requirement at Canadian mines;

(ii) to set site-specific requirements where necessary to protect local receiving environments; and

(iii) to require EEM programs to provide reporting and feedback on the effectiveness of protection measures.

Environment Canada developed a process and plan to obtain multi-stakeholder input on regulatory issues associated with the implementation of AQUAMIN recommendations in early 1997. This led to the development and subsequent publication of proposed *Metal Mining Effluent Regulations* (MMER) in the *Canada Gazette* Part I on July 28, 2001.

2.1 Application of the MMLER

The authorized levels of deleterious substances prescribed by the MMLER are shown in Table 2, and the authorized levels of pH are shown in Table 3.

Table 2: Authorized Levels of Deleterious Substances Prescribed in the MMLER

Substance	Maximum Authorized Monthly Arithmetic Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Arsenic	0.5 mg/L	0.75 mg/L	1.0 mg/L
Copper	0.3 mg/L	0.45 mg/L	0.6 mg/L
Lead	0.2 mg/L	0.3 mg/L	0.4 mg/L
Nickel	0.5 mg/L	0.75 mg/L	1.0 mg/L
Zinc	0.5 mg/L	0.75 mg/L	1.0 mg/L
TSM	25.0 mg/L	37.5 mg/L	50.0 mg/L
Radium-226	10.0 pCi/L	20.0 pCi/L	30.0 pCi/L

Note: All concentrations are total values with the exception of radium-226, which is a dissolved value after filtration through a 3-micron filter.

Table 3: Authorized Levels of pH Prescribed in the MMLER

Parameter	Minimum Authorized Monthly Arithmetic Mean pH	Minimum Authorized pH in a Composite Sample	Minimum Authorized pH in a Grab Sample
pH	6.0	5.5	5.0

Note: The concentration and pH objectives in the MMLEG have the same numeric values as the authorized levels prescribed in the MMLER.

In these regulations, a mine is defined as including "all metal mining and milling facilities that are used to produce a metal concentrate or an ore from which a metal or metal concentrate may be produced and associated smelters, pelletizing plants, sinter plants, refineries, acid plants and any similar operations where the effluent from such operations (is) combined with effluents from mining and milling." The regulations apply to new, expanded and reopened mines but do not apply to existing mines that were in commercial production for at least 2 months in the 12 months immediately prior to February 25, 1977. A new mine is one that commenced commercial production on or after that date. An expanded mine is a mine that increased its production rate by more than 30% over the reference production rate after February 25, 1977. A reopened mine is one that resumed production on or after that date and is not an existing mine. A gold mine is defined as one where the gold is recovered in the operations area by the process of cyanidation and accounts for more than 50% of the value of the output of the mine.

The release of deleterious substances in effluents from metal mines is related to, among other factors, the natural characteristics of the ore and uncontrollable water flows into the mine, waste rock dumps or tailings pond. Consequently, there is no direct relationship between the production rate of a mine and the amount of deleterious substances that may be released. Tailings or waste rock at inactive sites may also continue to release substantial amounts of deleterious substances. Therefore, the limits in the MMLER and MMLEG are based on the concentrations of deleterious substances in the effluent rather than on the production rate of the mine.

2.2 Application of the MMLEG

The MMLEG apply to all metal mines, other than gold mines using cyanidation, that were operating prior to February 1977. The concentration and pH objectives in the MMLEG have the same numeric values as the authorized levels prescribed in the MMLER. Effluent quality objectives in the MMLEG are not legally enforceable. However, all mines are subject to the provisions of Subsection 36(3) of the *Fisheries Act*. In addition, a mine may be legally obligated to meet the guidelines if a federal, provincial or territorial government agency imposes these limits in a permit or licence issued under other legislation.

Environment Canada also developed methods for the measurement of acute lethality in effluents from metal mines. These specify a bioassay test procedure in which rainbow trout are exposed to undiluted effluent for 96 hours (Environment Canada, *Biological Test Method: Reference Method for Determining Acute*

Lethality of Effluents to Rainbow Trout, EPS 1/RM/13, December 2000, Second Edition). If 50% of the fish survive, the effluent is considered to pass the test. The acute lethality test measures the short-term effect on fish of all substances that may be contained in an effluent.

2.3 Implementation of the MMLER and MMLEG

Environment Canada and Fisheries and Oceans Canada cooperate with provincial and territorial governments and other federal agencies in implementing the MMLER and MMLEG. The federal government has generally implemented the requirements of the regulations and guidelines through agreements with provincial or territorial authorities to include the federal effluent limits in licences or permits issued to a mining company. While this one-window approach is preferred, Environment Canada may deal directly with mines in cases where regulated or guideline limits have been exceeded.

Since uranium mines are licensed under the *Canadian Nuclear Safety and Control Act*, Environment Canada works closely with the Canadian Nuclear Safety Commission to implement the regulations and guidelines for uranium mines through licences issued by the Commission.

In the Yukon, Nunavut and the Northwest Territories, Environment Canada works closely with the territorial water boards and Indian and Northern Affairs Canada in the licensing of mines.

2.4 Monitoring and Reporting Requirements

Monitoring and reporting requirements are specified in Sections 6 through 10 of the MMLER. Modifications to the monitoring and reporting scheme are covered in Section 11 of the regulations.

The frequency with which effluents are to be sampled and analyzed for prescribed parameters is defined in Schedule 2 of the MMLER. Mining operations are required to monitor effluents and to report results on a regular basis. The reporting arrangements vary with each province and territory. Generally, regulated mines are required to report results directly to Environment Canada, while guideline mines may report directly to Environment Canada or through another agency.

Similar arrangements exist between Environment Canada and other federal agencies and have been formalized through various memorandums of understanding.

2.5 Gold Mines

Gold mining operations using cyanidation are not subject to either the MMLER or the MMLEG, as suitable technology to treat cyanide effluents had not been demonstrated when the regulations and guidelines were promulgated in 1977.

Gold mining operations that do not use cyanidation as defined by the MMLER are subject to the regulations and guidelines in accordance with the same criteria applied to other metal mines. A number of gold mines were developed or reopened in the 1980s and 1990s that provide ore or mineral concentrates for further processing by a mill or smelter at a different site. If these mines meet the definition of a "gold mine" in the MMLER, they are exempt from the regulations.

Over the course of the past 15 years, several effective cyanide removal technologies have been developed and implemented in Canada to treat cyanide-bearing effluents. These technologies include natural degradation, alkaline chlorination, the Inco SO_2/air process, hydrogen peroxide oxidation, the Hemlo gold process and the cyanide recovery process. On this basis, the AQUAMIN report recommended that gold mines using cyanide be subject to the updated and strengthened MMLER.

3.0 Performance Data

3.1 Data Collection

The data used in this report were obtained through cooperative arrangements between federal and provincial agencies. The data were consolidated from several sources. However, the primary source was information submitted to federal, provincial and territorial regulatory authorities by mine operators. Closed mines and inactive tailings impoundment sites are not subject to the MMLER or MMLEG and are not addressed in this report.

3.2 Data Analysis

For the purposes of this report, performance was based on an analysis of monthly effluent quality data. Mines subject to the regulations were considered to meet the MEQS for a given month if all effluent discharges complied with the maximum authorized monthly mean concentrations for that month. Similarly, mines subject to the guidelines were considered to meet the MEQS for a given month if all effluent discharges achieved the monthly mean concentration objectives for that month. Performance for the year was based on the percentage of operational months during which a mine met the MEQS.

3.3 National Summary

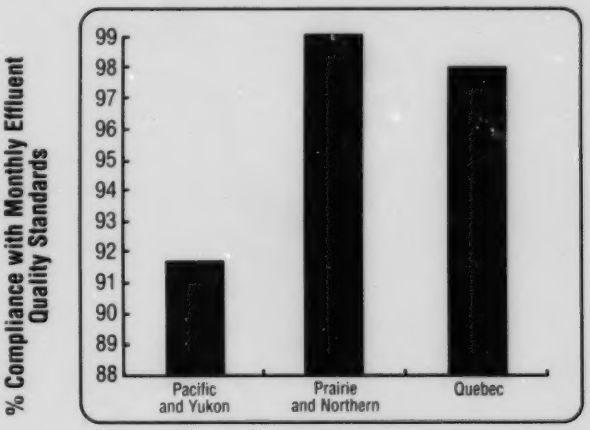
3.3.1 1999 Summary

In 1999, a total of 61 metal mines operating in Nunavut and all provinces except Alberta, Nova Scotia and Prince Edward Island were subject to the MMLER and the MMLEG.

Of the 30 metal mines that were subject to the MMLER, 21 achieved 100% compliance with the MEQS. Three regulated mines that did not discharge effluents during 1999 were excluded from this performance assessment. The overall rate of compliance with the MEQS was 97.4% for regulated mines. The regional distribution of performance by regulated mines is illustrated in Figure 1, and performance by individual mines is summarized in Table 4. Of the eight specified parameters, zinc and TSM were the two whose limits were most often exceeded.

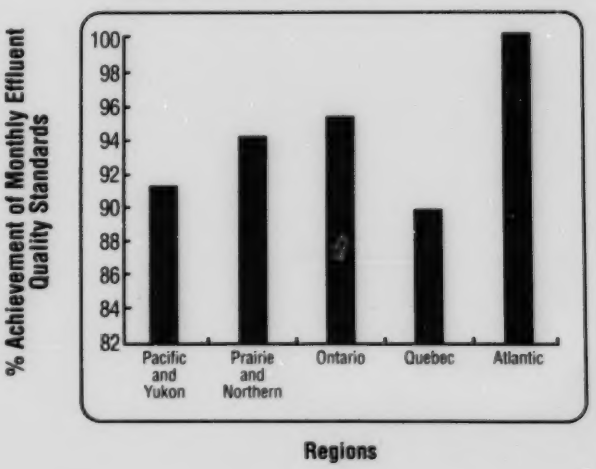
Of the 31 metal mines that were subject to the MMLEG, 22 achieved 100% of the MEQS. The overall rate of achievement with respect to the MEQS was 93.5% for guideline mines. The regional distribution of performance by guideline mines is illustrated in Figure 2, and performance by these mines is summarized in Table 5.

Figure 1: Comparison of Regional Performance of Regulated Mines in 1999



No regulated mines in Atlantic Region.
Two mines in Ontario had no effluent.

Figure 2: Comparison of Regional Performance of Guideline Mines in 1999



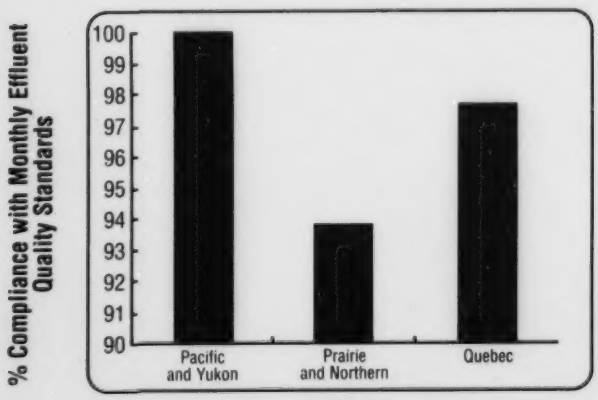
3.3.2 2000 Summary

In 2000, a total of 59 metal mines operating in Nunavut and all provinces except Alberta, Nova Scotia and Prince Edward Island were subject to the MMLER and the MMLEG.

Of the 28 metal mines that were subject to the MMLER, 18 achieved 100% compliance with the MEQS. Five regulated mines that did not discharge effluents during 2000 were excluded from this performance assessment. The overall rate of compliance with the MEQS was 96.6% for regulated mines. The regional distribution of performance by regulated mines is illustrated in Figure 3, and performance by individual mines is summarized in Table 4. Of the eight specified parameters, nickel and TSM were the two whose limits were most often exceeded.

Of the 31 metal mines that were subject to the MMLEG, 16 achieved 100% of the MEQS. The overall rate of achievement with respect to the MEQS was 94.6% for guideline mines. The regional distribution of performance by guideline mines is illustrated in Figure 4, and performance by these mines is summarized in Table 5.

Figure 3: Comparison of Regional Performance of Regulated Mines in 2000



No regulated mines in Atlantic Region.
Two mines in Ontario had no effluent.

Figure 4: Comparison of Regional Performance of Guideline Mines in 2000

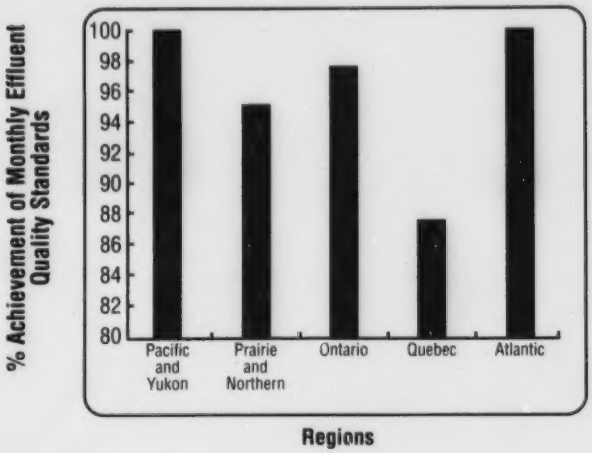


Table 4: Summary of Performance by Mines Subject to the MMLER in 1999 and 2000

Mine Name (Company), Province	% Compliance with MEQS in 1999	% Compliance with MEQS in 2000	Comments
1. Craigmont (Craigmont), British Columbia	Not assessed	Not assessed	No TSM data reported for 1999 or 2000.
2. Eskay Creek (Homestake), British Columbia	100	100	
3. Huckleberry (Princeton), British Columbia	91.7	100	Did not comply with MEQS for TSM for 1 month in 1999.
4. Highland Valley Copper (Cominco), British Columbia	N/A	N/A	No effluent discharged during 1999 and 2000.
5. Myra Falls (Boliden Westmin Canada Ltd.), British Columbia	100	100	
6. Snip (Prime Resources), British Columbia	75.0	N/A	Did not comply with MEQS for TSM for 3 months in 1999. Mine closed in 2000.
7. Polaris (Cominco), Nunavut	100	100	
8. Rabbit Lake (Cameco), Saskatchewan	100	100	
9. Cluff Lake (Cogema), Saskatchewan	100	100	
10. Key Lake (Cameco), Saskatchewan	100	100	
11. McArthur River (Cameco), Saskatchewan	100	100	
12. McClean Lake (Cogema), Saskatchewan	100	100	
13. Konuto Lake (Hudson Bay Mining & Smelting), Saskatchewan	91.7	50	Did not comply with MEQS for TSM for 1 month in 1999 and 6 months in 2000 due to algal blooms in settling pond. Corrective measures taken.
14. Keystone (Black Hawk), Manitoba	100	N/A	No effluent discharged during January–April 2000. Mine closed in May 2000.
15. Trout Lake (Hudson Bay Mining & Smelting), Manitoba	100	100	
16. Hoyle Pond (Kinross Gold), Ontario	N/A	N/A	No effluent discharged during 1999 and 2000.
17. Lindsley (Falconbridge), Ontario	N/A	N/A	No effluent discharged during 1999 and 2000.
18. Bousquet (Barrick), Québec	100	100	
19. Bouchard-Hébert (Cambior), Québec	100	100	
20. Francoeur (Richmont), Québec	100	100	
21. Gonzague Langlois (Cambior), Québec	100	91.7	Did not comply with MEQS for TSM for 1 month in 2000.
22. Joe Mann (Campbell Resources), Québec	100	100	
23. Joubi (Western Québec), Québec	100	N/A	Mine closed in 2000.
24. Katinniq-Raglan (Raglan), Québec	100	91.7	Did not comply with MEQS for TSM for 1 month in 2000.
25. Louvicourt (Novicourt), Québec	100	100	
26. Mouska (Cambior), Québec	100	100	
27. Niobec (Cambior), Québec	100	91.7	Did not comply with MEQS for TSM for 1 month in 2000.
28. Selbaie Mines (Gencor), Québec	83.3	100	Did not comply with MEQS for Zn for 2 months in 1999.
29. Sigma 2 (McWatters), Québec	100	N/A	No effluent discharged during 2000.
30. Troilus (Inmet), Québec	91.7	100	Did not comply with MEQS for TSM for 1 month in 1999.

Notes: Mines presented by location west to east generally.
N/A: not applicable.

Table 5: Summary of Performance by Mines Subject to the MMLEG in 1999 and 2000

Mine Name (Company), Province	% Achievement with MEQS in 1999	% Achievement with MEQS in 2000	Comments
1. Endako (Thompson Creek), British Columbia	Not assessed	Not assessed	Concentrations in total values not available. Mine reported only dissolved values.
2. Sullivan (Cominco), British Columbia	91.7	100	Did not achieve MEQS for Zn for 1 month in 1999.
3. Nanisivik (Breakwater), Nunavut	100	100	
4. Flin Flon Mill (Hudson Bay Mining & Smelting), Manitoba	100	100	
5. Thompson Mill (Inco), Manitoba	100	75	Did not achieve MEQS for Ni for 3 months in 2000.
6. Thompson Complex & Birchtree (Inco), Manitoba	100	100	
7. Birchtree (Inco), Manitoba	100	100	
8. Ruttan (Hudson Bay Mining & Smelting), Manitoba	100	100	
9. Bernic Lake (Cabot Corporation), Manitoba	58.3	91.7	Did not achieve MEQS for TSM for 5 months in 1999 and 1 month in 2000.
10. Copper Cliff Wastewater Treatment Plant (Inco), Ontario	100	91.7	Did not achieve MEQS for Ni for 1 month in 2000.
11. Nolin Creek Wastewater Treatment Plant (Inco), Ontario	100	91.7	Did not achieve MEQS for Ni for 1 month in 2000.
12. Crean Hill (Inco), Ontario	91.7	100	Did not achieve MEQS for Ni for 1 month in 1999.
13. Garson (Inco), Ontario	91.7	100	Did not achieve MEQS for Ni for 1 month in 1999.
14. Strathcona Mill (Falconbridge), Ontario	100	100	
15. Lockerby (Falconbridge), Ontario	100	100	
16. Kidd Creek (Falconbridge), Ontario	83.3	100	Did not achieve MEQS for Zn for 2 months in 1999.
17. Gaspé (Noranda), Québec	100	100	
18. Horne (Noranda), Québec	75.0	83.3	Did not achieve MEQS for Zn for 2 months in 1999 and 2000 and for Ni for 1 month in 1999.
19. Lac Matagami (Noranda), Québec	100	100	
20. Lac Tio (QIT), Québec	66.7	58.3	Did not achieve MEQS for Cu for 1 month, Ni for 1 month and TSM for 4 months in 1999; Cu for 2 months, Pb for 2 months, Zn for 1 month and TSM for 4 months in 2000.
21. Mont-Wright (Québec Cartier), Québec	100	91.7	Did not achieve MEQS for TSM for 1 month in 2000. Incomplete data submitted for discharge LW-1 in 2000.
22. Principale (Campbell Resources), Québec	91.7	91.7	Did not achieve MEQS for pH for 1 month in 1999 and Cu for 1 month in 2000.
23. Brunswick (Noranda), New Brunswick	100	100	
24. Iron Ore Company of Canada (Iron Ore Company of Canada), Newfoundland	Not assessed	Not assessed	No TSM data reported for 1999 or 2000.
25. Scully (Stelco), Newfoundland	100	100	

Notes: Mines presented by location west to east generally.
N/A: not applicable.

3.4 Data for Individual Mines

All mines that were subject to the MMLER and MMLEG in 1999 and 2000 are listed in Tables 6–13.

The name of each mine, the name of the company and the approximate location are listed in Column 1 of the tables. Company names have been abbreviated by omitting such words as "Mine," "Corporation," "Limited," etc. Parent or managing company names are also given. The full name of each mining company is provided in Appendix A.

Column 2 indicates effluent discharge points.

Performance reporting year is given in Column 3. Data for average annual quality of effluents (or typical data where limited data are available) are provided in Column 4.

Mine monthly average effluent quality compliance, achievement and exceedances are given in Appendix B, and effluent quality data are given in Appendix C.

The effluent from a mining operation does not necessarily contain measurable concentrations of all of the prescribed deleterious substances. Metals commonly occur in ore as insoluble minerals. In the absence of acid mine water, low total concentrations of metals would be expected to occur in the effluent. To simplify the data, metal concentrations of less than 0.01 mg/L are not reported in the tables.

As the frequency of monitoring varies considerably from mine to mine, the data in Column 4 provide only a general view of the effluent quality. In some cases, the figures in Column 4 represent the average of monthly data, while in other cases, they represent the average of a limited number of samples. Column 5 provides comments summarizing mine performance with respect to the MEQS in 1999 and 2000. These comments are based on an examination of all data available to Environment Canada and not on the annual average shown in Column 4. For example, although the annual average concentration of zinc in a particular effluent might be 0.4 mg/L, effluent may have exceeded the maximum authorized monthly mean concentration of 0.5 mg/L in some months.

3.5 Summary of Performance by Region

3.5.1 Pacific and Yukon Region

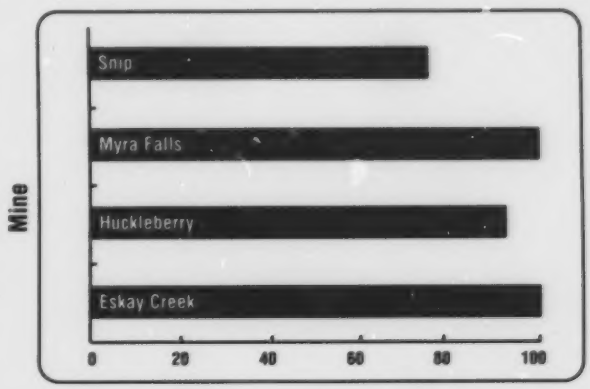
3.5.1.1 1999 Performance

In 1999, eight base metal mines were operating in the Pacific and Yukon Region, all of which were located in British Columbia. Six of these mines were subject to the MMLER, and two of them did not achieve 100% compliance with the MEQS (see Figure 5). One mine did not discharge effluent, and one mine did not report any TSM data. They were both excluded from this performance assessment.

Two mines were subject to the MMLEG. One mine did not achieve 100% of the MEQS. The other mine was not assessed because concentrations in total values were not available.

There were no operating metal mines in the Yukon in 1999.

Figure 5: Performance of Mines Subject to the MMLER in the Pacific and Yukon Region in 1999



3.5.1.2 2000 Performance

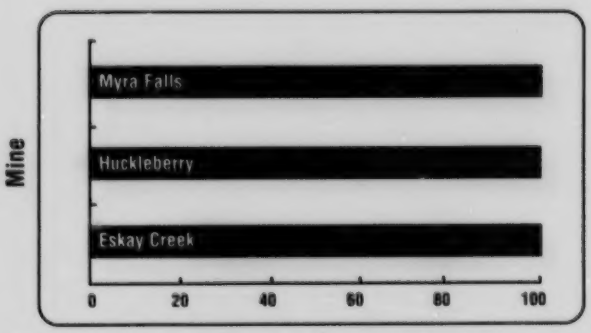
In 2000, seven base metal mines were operating in the Pacific and Yukon Region, all of which were located in British Columbia. Five of these mines were subject to the MMLER. One mine did not discharge effluent, and one mine did not report any TSM data.

They were both excluded from this performance assessment. The remaining three mines all achieved 100% compliance with the MEQS (see Figure 6).

Two mines were subject to the MMLEG, and one achieved 100% of the MEQS. The other mine was not assessed because reported concentrations were based on dissolved values rather than total values.

There were no operating metal mines in the Yukon in 2000.

Figure 6: Performance of Mines Subject to the MMLER in the Pacific and Yukon Region in 2000



3.5.2 Prairie and Northern Region

3.5.2.1 1999 Performance

This region encompasses the provinces of Alberta, Saskatchewan and Manitoba, as well as the Northwest Territories and Nunavut. In 1999, 15 mines were operating in this region: 10 base metal mines and five uranium mines. Of these mines, two were in Nunavut, six in Saskatchewan and seven in Manitoba.

Nine mines were subject to the MMLER, and one of these did not achieve 100% compliance with the MEQS (see Figure 7).

Six mines were subject to the MMLEG, and one of these did not achieve 100% of the MEQS (see Figure 8).

Figure 7: Performance of Mines Subject to the MMLER in the Prairie and Northern Region in 1999

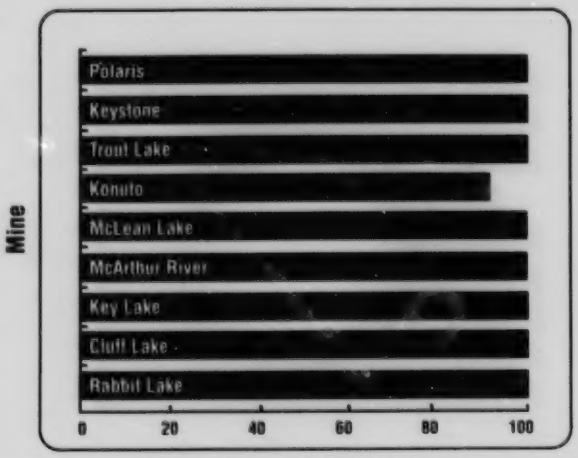
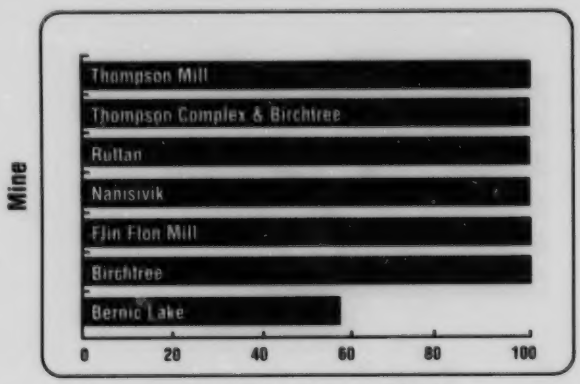


Figure 8: Performance of Mines Subject to the MMLEG in the Prairie and Northern Region in 1999



3.5.2.2 2000 Performance

In 2000, 15 mines were operating in this region: 10 base metal mines and five uranium mines. Of these mines, two were in Nunavut, six in Saskatchewan and seven in Manitoba.

Nine mines were subject to the MMLER, and one mine did not discharge effluent and was excluded from this performance assessment. One of the remaining eight mines did not achieve 100% compliance with the MEQS (see Figure 9).

Six mines were subject to the MMLEG, and two of these did not achieve 100% of the MEQS (see Figure 10).

Figure 9: Performance of Mines Subject to the MMLER in the Prairie and Northern Region in 2000

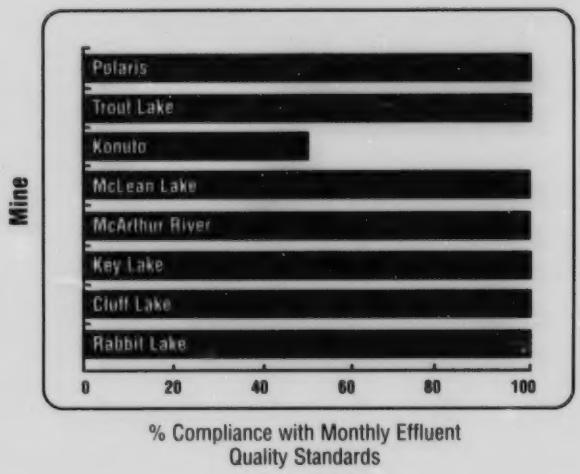
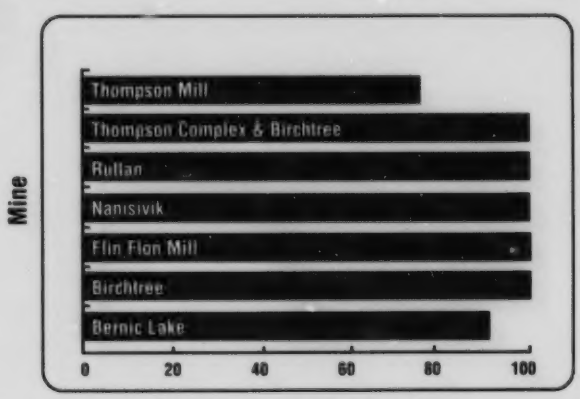


Figure 10: Performance of Mines Subject to the MMLEG in the Prairie and Northern Region in 2000



3.5.3 Ontario Region

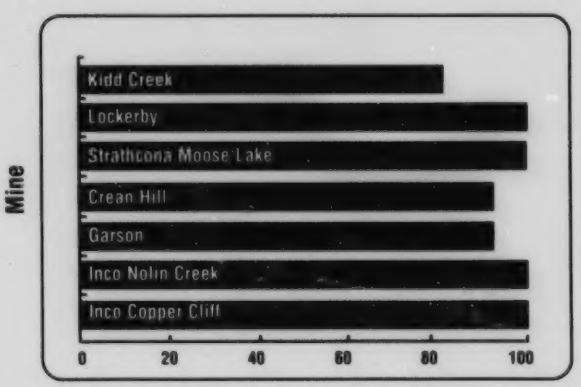
3.5.3.1 1999 Performance

In 1999, there were 15 base metal mines and one gold mine not using the cyanidation process operating in the Ontario Region. In addition, various effluents from nine mines were treated at two wastewater treatment plants at the Inco complex in Sudbury.

The two mines that were subject to the MMLER did not discharge effluent during 1999 and were excluded from this performance assessment.

Fourteen mines were subject to the MMLEG, and three of these did not achieve 100% of the MEQS (see Figure 11).

Figure 11: Performance of Mines Subject to the MMLEG in the Ontario Region in 1999



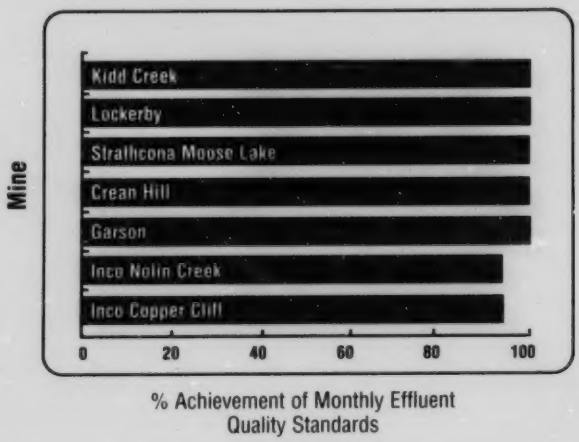
3.5.3.2 2000 Performance

In 2000, there were 15 base metal mines and one gold mine not using the cyanidation process operating in the Ontario Region. In addition, various effluents from nine mines were treated at two wastewater treatment plants at the Inco complex in Sudbury.

The two mines that were subject to the MMLER did not discharge effluent and were excluded from this performance assessment.

Fourteen mines were subject to the MMLEG. The two Inco wastewater treatment plants did not achieve 100% of the MEQS (see Figure 12).

Figure 12: Performance of Mines Subject to the MMLEG in the Ontario Region in 2000



3.5.4 Quebec Region

3.5.4.1 1999 Performance

In 1999, there were nine base metal mines, eight gold mines not using cyanidation and two iron ore mines operating in the Quebec Region.

Thirteen mines were subject to the MMLER, and two of these did not achieve 100% compliance with the MEQS (see Figure 13).

Six mines were subject to the MMLEG, and three of these did not achieve 100% of the MEQS (see Figure 14).

Figure 13: Performance of Mines Subject to the MMLER in the Quebec Region in 1999

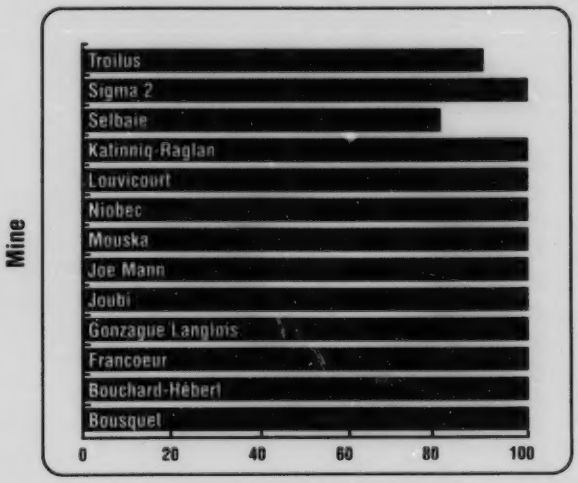
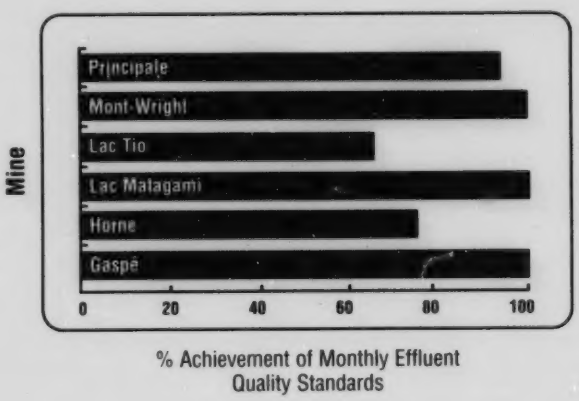


Figure 14: Performance of Mines Subject to the MMLEG in the Quebec Region in 1999



3.5.4.2 2000 Performance

In 2000, there were nine base metal mines, seven gold mines not using cyanidation and two iron ore mines operating in the Quebec Region.

Twelve mines were subject to the MMLER, and three of these did not achieve 100% compliance with the MEQS (see Figure 15). One mine did not discharge effluent during 2000 and was excluded from this performance assessment.

Six mines were subject to the MMLEG, and four of these did not achieve 100% of the MEQS (see Figure 16). One mine was assessed on the basis of two out of three effluents due to incomplete data.

Figure 15: Performance of Mines Subject to the MMLER in the Quebec Region in 2000

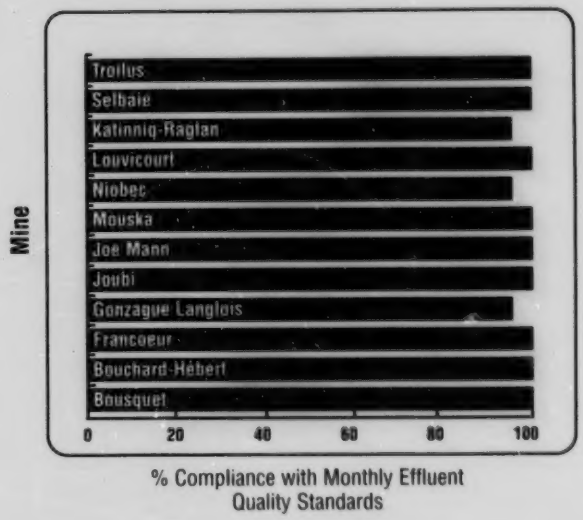
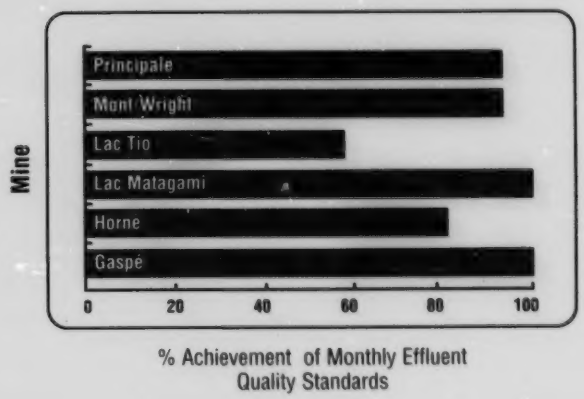


Figure 16: Performance of Mines Subject to the MMLEG in the Quebec Region in 2000



3.5.5 Atlantic Region

This region includes the provinces of New Brunswick, Nova Scotia, Prince Edward Island and Newfoundland and Labrador. In 1999 and 2000, one base metal mine was operating in New Brunswick, and two iron ore mines were operating in Newfoundland and Labrador.

No mines were subject to the MMLER in 1999 and 2000.

In 1999 and 2000, three mines were subject to the MMLEG, and two of these met all of the MEQS (see Figures 17 and 18). One mine did not report TSM data for 1999 or 2000 and was excluded from this performance assessment.

Figure 17: Performance of Mines Subject to the MMLEG in the Atlantic Region in 1999

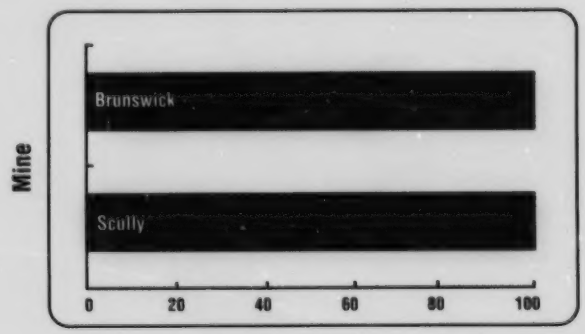


Figure 18: Performance of Mines Subject to the MMLEG in the Atlantic Region in 2000

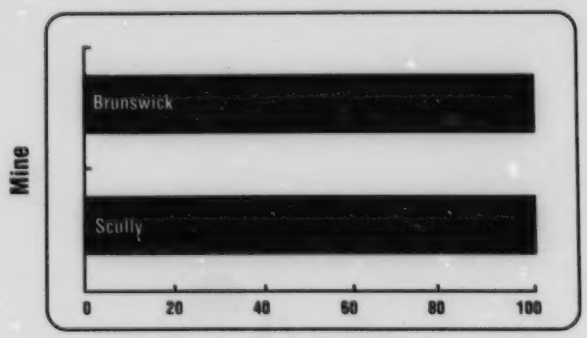


Table 6: Effluent Quality for Metal Mines in British Columbia in 1999 and 2000

Mine Name (Company): Location	Discharge Point	Year	Annual Average Quality of Effluent							Comments
			Metals and TSM in mg/L							
			As	Cu	Ni	Pb	Zn	TSM	pH	
1. Craigmont (Craigmont), Merritt	Adit Water	1999	0.345	0.025	<0.01	<0.01	0.012	–	7.5	No TSM data reported for 1999 or 2000; performance not assessed.
		2000	0.035	0.2	0.02	<0.01	0.078	–	7.2	
2. Endako (Thompson Creek), Endako		1999								Concentrations not reported as total values; performance not assessed.
		2000								
3. Eskay Creek (Homestake), Stewart	D7	1999	<0.01	0.01	0.03	0.05	0.03	10.9	7.5	Complied with all MEQS during 1999 and 2000.
		2000	<0.01	0.01	0.05	0.06	0.06	10.3	7.7	
	W20	1999	<0.01	<0.01	<0.01	0.02	0.02	4.4	7.5	Complied with all MEQS during 1999 and 2000.
		2000	<0.01	<0.01	<0.01	0.03	0.02	7.1	7.8	
4. Highland Valley (Cominco), Logan Lake		1999								No effluent discharged during 1999 and 2000.
		2000								
5. Huckleberry (Princeton), Houston	SC-2	1999	<0.01	<0.01	–	<0.01	<0.01	5.1	7.2	
		2000	<0.01	<0.01	–	<0.01	<0.01	4.9	7.5	
	SC-3	1999	<0.01	0.03	–	<0.01	<0.01	8.8	7.4	Above MEQS for TSM for 1 month in 1999.
		2000	<0.01	0.04	–	<0.01	<0.01	5.3	7.7	
	SC-4	1999	<0.01	<0.01	–	<0.01	<0.01	6.2	7.6	
		2000	<0.01	<0.01	–	<0.01	<0.01	5.0	7.8	
	SC-5	1999	<0.01	<0.01	–	<0.01	<0.01	5.0	7.0	
		2000	<0.01	<0.01	–	<0.01	<0.01	5.0	7.5	
	East Zone Ditch	1999	–	–	–	–	–	16.7	7.2	Above MEQS for TSM for 1 month in 1999.
		2000	–	–	–	–	–	5.3	7.6	
6. Myra Falls (Boliden Westmin), Campbell River	Myra Pond	1999	–	0.02	–	<0.01	0.105	8.5	10.6	
		2000	–	<0.01	–	<0.01	0.05	8.5	10.4	
7. Snip (Prime Resources), Stewart	Tailings Pond Discharge	1999	0.06	<0.01	0.01	<0.01	0.03	38.0	8.0	Above MEQS for TSM for 3 months in 1999. Mine closed in 2000.
		2000								
8. Sullivan (Cominco), Kimberley	Kootenay	1999	<0.01	<0.01	–	0.04	0.24	7.2	9.3	Above MEQS for Zn for 1 month in 1999.
		2000	<0.01	0.01	–	0.02	0.20	4.5	9.5	

Table 7: Effluent Quality for Metal Mines in Nunavut in 1999 and 2000

Mine Name (Company), Location	Discharge Point	Year	Annual Average Quality of Effluent							Comments
			Metals and TSM in mg/L							
			As	Cu	Ni	Pb	Zn	TSM	pH	
1. Nanisivik (Breakwater), Nanisivik	Pond 159-4	1999	–	–	–	0.01	0.09	–	6.8	
		2000	–	–	–	<0.01	0.01	4.3	7.5	
2. Polaris (Cominco), Little Cornwallis Island	Sample Station 262-7	1999	<0.01	<0.01	<0.01	0.02	0.20	8.9	8.1	Complied with all MEQS during 1999 and 2000.
		2000	<0.01	<0.01	<0.01	0.01	0.09	1.0	8.0	

Table 8: Effluent Quality for Metal Mines in Saskatchewan in 1999 and 2000

Mine Name (Company), Location	Discharge Point	Year	Annual Average Quality of Effluent								Comments
			Metals and TSM in mg/L								
			As	Cu	Ni	Pb	Zn	TSM	pH	Ra-226 (pCi/L)	
1. Cluff Lake (Cogema), Cluff Lake	Treated Effluent	1999	<0.01	<0.01	0.02	<0.01	0.01	4.5	7.3	0.54	Complied with all MEQS during 1999.
		2000	0.02	<0.01	0.04	<0.01	0.01	4.2	7.2	1.16	
2. Key Lake (Cameco), Key Lake	Mill Treated Effluent	1999	0.02	0.01	0.08	0.01	0.01	1.4	6.3	1.44	Complied with all MEQS during 1999 and 2000.
		2000	0.01	0.01	0.05	0.01	0.01	1.7	6.2	3.78	
3. Rabbit Lake (Cameco), Rabbit Lake	Mill Treated Effluent, Station 2.3.3	1999	0.06	0.01	0.08	<0.01	0.01	2.7	7.2	0.24	Complied with all MEQS during 1999 and 2000.
		2000	0.06	<0.01	0.10	<0.01	<0.01	2.5	7.1	0.27	
4. McArthur River (Cameco), Key Lake		1999	0.01	<0.01	<0.01	<0.01	0.04	1.4	7.3	0.32	Complied with all MEQS during 1999 and 2000.
		2000	0.02	<0.01	<0.01	<0.01	0.02	1.2	7.1	0.59	
5. McClean Lake (Cogema), Wollaston Lake	SUE Water Treatment Plant Effluent to Sink Lake	1999	<0.01	<0.01	<0.01	<0.01	<0.01	3.0	7.1	0.89	Complied with all MEQS during 1999 and 2000.
		2000	0.02	<0.01	0.02	<0.01	<0.01	2.3	7.2	0.65	
	JEB Water Treatment Plant Effluent to Sink Lake	1999	0.03	<0.01	0.09	<0.01	0.02	3.0	7.2	1.55	Complied with all MEQS during 1999 and 2000.
		2000	0.03	<0.01	0.06	<0.01	0.02	2.4	7.2	1.6	
6. Konuto Lake (Hudson Bay Mining & Smelting), Konuto Lake		1999	<0.01	0.09	0.01	0.04	0.12	27.0	8.0		Above MEQS for TSM for 1 month in 1999 and 6 months in 2000.
		2000	<0.01	0.09	0.01	0.04	0.07	33.0	8.6		

Table 9: Effluent Quality for Metal Mines in Manitoba in 1999 and 2000

Mine Name (Company) Location	Discharge Point	Year	Annual Average Quality of Effluent							Comments
			Metals and TSM in mg/L							
			As	Cu	Ni	Pb	Zn	TSM	pH	
1. Flin Flon Mill (Hudson Bay Mining & Smelting), Flin Flon	Tailings Pond North Weir	1999	0.01	0.03	0.01	0.04	0.21	7.0	10.0	Achieved all MEQS during 1999 and 2000.
		2000	0.01	0.03	0.01	0.04	0.20	7.0	10.0	
Hudson Bay Mining & Smelting mines providing ore to Flin Flon Mill										
a. Flin Flon Mine			–	–	–	–	–	–	–	
b. Trout Lake Mine	Treatment Plant Discharge	1999	<0.01	0.01	0.01	0.04	0.14	23.0	8.8	Achieved all MEQS during 2000.
		2000	<0.01	0.01	0.01	0.04	0.14	22.0	8.9	
2. Keystone (Black Hawk), Farley Lake	Sedimentation Pond #1	1999	<0.01	<0.01	<0.01	<0.01	0.01	2.5	7.9	Achieved all MEQS during 1999. No effluent discharged during January - April 2000. Mine closed in May 2000.
		2000								
	Sedimentation Pond #2	1999	<0.01	<0.01	<0.01	<0.01	0.01	1.9	7.5	
		2000								
3. Ruttan Mine (Hudson Bay Mining & Smelting), Leaf Rapids	Brehaut Lake Outfall	1999	<0.01	0.01	0.01	0.04	0.06	5.0	7.5	
		2000	<0.01	0.01	0.01	0.04	0.14	6.0	7.3	
4. Bernic Lake (Cabot), Lac du Bonnet	Tailings Pond Discharge	1999	0.01	0.01	0.01	<0.01	0.01	21.9	8.5	Above MEQS for TSM for 5 months in 1999 and 1 month in 2000.
		2000	0.01	<0.01	<0.01	<0.01	0.02	19.0	8.3	
5. Thompson Mill (Inco), Thompson	Tailings Pond Discharge	1999	–	–	0.22	–	–	3.0	7.7	Above MEQS for Ni for 3 months in 2000.
		2000	–	–	0.42	–	–	5.0	7.7	
Inco mines providing ore to Thompson Mill										
a. Thompson Complex and Birchtree Mine	T3 Culvert	1999	–	–	0.21	–	–	4.0	7.6	
		2000	–	–	0.21	–	–	3.0	7.4	
b. Birchtree Mine	Surface Runoff Swamp Stream LP #1	1999	–	–	0.03	–	–	2.0	7.4	
		2000	–	–	0.06	–	–	3.0	7.4	
	Effluent Treatment Plant LP #2	1999	–	–	0.17	–	–	1.0	7.4	
		2000	–	–	0.20	–	–	2.0	7.2	

Table 10: Effluent Quality for Metal Mines in Ontario in 1999 and 2000

Mine Name (Company), Location	Discharge Point	Year	Annual Average Quality of Effluent							Comments
			Metals and TSM in mg/L							
			As	Cu	Ni	Pb	Zn	TSM	pH	
1. Falconbridge Complex (Falconbridge), Sudbury										
a. The following mines provide ore for Strathcona Mill: Strathcona Fraser Onaping Lockerby		1999	<0.01	0.02	0.06	<0.01	0.01	0.70	7.6	Achieved all MEQS during 1999.
		2000	<0.01	0.01	0.06	<0.01	<0.01	1.1	7.5	
b. Lockerby	Mine Water	1999	<0.01	0.02	0.26	<0.01	0.01	1.0	7.5	Achieved all MEQS during 1999 and 2000.
		2000	<0.01	0.01	0.26	<0.01	0.01	1.3	7.2	
c. Thayer Lindsley		1999								No effluent discharged during 1999 and 2000.
		2000								
2. Hoyle Pond (Kinross Gold), Timmins		1999								No effluent discharged during 1999 and 2000.
		2000								
3. Inco Complex Sudbury	Copper Cliff Creek	1999	<0.01	0.07	0.33	0.03	0.02	3.0	8.4	Achieved all MEQS during 1999. Above MEQS for Ni for 1 month in 2000. This facility treats effluents from various operations listed below; 90% of effluent is recycled.
		2000	<0.01	0.10	0.26	0.03	0.02	3.3	8.4	
a. Frood-Stobie Mill Frood Mine Little Stobie Mine										
b. Clarabelle Mill Copper Cliff South Mine Creighton Mine Garson Mine McCreedy West Mine Copper Cliff North Mine										
c. Copper Cliff Mill	Nolin Creek	1999	<0.01	0.05	0.30	0.02	0.01	3.3	8.1	Achieved all MEQS during 1999. Above MEQS for Ni for 1 month in 2000.
		2000	<0.01	0.03	0.25	0.02	0.01	3.5	8.5	
d. McCreedy West Mines										
e. Crean Hill Mine		1999	0.01	0.01	0.33	0.01	0.01	2.8	8.1	Above MEQS for Ni for 1 month in 1999.
		2000	<0.01	0.01	0.26	0.03	0.01	3.1	8.5	
f. Garson Mine		1999	0.01	0.03	0.17	0.01	0.02	3.8	8.0	Above MEQS for Ni for 1 month in 1999.
		2000	<0.01	<0.01	0.11	0.03	0.01	3.1	8.6	
4. Kidd Creek (Falconbridge) Timmins	Tailings Pond Effluent	1999	0.01	0.04	<0.01	<0.01	0.30	0.70	7.6	Above MEQS for Zn for 2 months in 1999.
		2000	<0.01	0.03	<0.01	<0.01	0.25	1.0	7.6	

Table 11: Effluent Quality for Metal Mines in Quebec in 1999 and 2000

Mine Name (Company), Location	Discharge Point	Year	Annual Average Quality of Effluent							Comments
			Metals and TSM in mg/L							
			As	Cu	Ni	Pb	Zn	TSM	pH	
1. Bouchard-Hébert (Cambior), Rouyn-Noranda	Final Effluent	1999	0.01	0.05	0.05	0.01	0.10	4.4	8.0	
		2000	0.01	0.05	0.10	0.01	0.05	8.2	8.4	
2. Bousquet #2 (Barrick), Preissac	Mine Water	1999	<0.01	0.02	0.05	0.01	0.05	1.9	7.3	Complied with all MEQS during 1999 and 2000.
		2000	<0.01	0.02	0.05	0.01	0.04	3.7	7.2	
3. Francoeur (Richmont), Rouyn-Noranda	Settling Pond	1999	<0.01	0.02	0.04	0.02	0.01	10.7	7.7	
		2000	0.01	0.01	0.05	0.01	0.01	7.5	7.5	
4. Gaspé (Noranda), Murdochville	Combined Effluent	1999	<0.01	0.04	0.02	0.03	0.02	2.6	7.9	
		2000	0.01	0.03	0.01	0.02	0.01	1.8	8.0	
5. Gonzague Langlois (Cambior), Val-d'Or	Tailings Pond	1999	<0.01	0.02	0.04	0.01	0.12	3.4	7.0	Complied with all MEQS during 1999.
		2000	0.01	0.02	0.05	0.01	0.25	3.7	7.1	
	Ditch 3A	1999	<0.01	0.01	0.05	0.01	0.01	4.1	7.0	Complied with all MEQS during 1999.
		2000	0.01	0.01	0.04	0.01	0.02	4.2	7.2	
	Ditch 3C	1999	<0.01	0.01	0.06	0.01	0.01	2.3	7.2	Above MEQS for TSM for 1 month in 2000.
		2000	0.01	0.01	0.05	0.01	0.01	4.9	7.5	
	Ditch 4	1999	<0.01	0.01	0.06	0.01	0.01	3.1	7.4	Complied with all MEQS during 1999.
		2000	<0.01	0.02	0.04	0.01	0.01	3.9	7.5	
6. Horne (Noranda), Rouyn-Noranda	Tailings Pond Effluent (PI-06)	1999	0.06	0.04	0.05	0.05	0.14	7.2	8.2	Achieved all MEQS during 1999 and 2000.
		2000	0.04	0.02	0.05	0.04	0.11	4.9	7.6	
	Tailings Pond (# 12)	1999	0.05	0.11	0.15	0.05	0.24	3.6	8.2	Above MEQS for Ni for 1 month in 1999 and for Zn for 2 months in 1999 and 2000.
		2000	0.05	0.04	0.05	0.04	0.24	3.7	8.6	
7. Joe Mann (Campbell Resources), Chibougamau	Final Effluent	1999	–	0.01	–	0.06	–	3.0	7.6	
		2000	–	0.03	–	0.03	–	2.3	7.4	
8. Joubi (Western), Val-d'Or	Mine Water	1999	0.01	0.02	0.01	0.02	0.01	4.8	7.7	Mine closed in 2000.
		2000								
9. Katinniq (Raglan), Ungava Peninsula	DIR-UT	1999	<0.01	0.03	0.18	<0.01	0.02	16.8	9.1	Above MEQS for TSM for 1 month in 2000.
		2000	0.03	0.03	0.16	0.03	0.02	15.8	9.3	
	DIR-HS	1999	<0.01	0.01	0.44	<0.01	0.02	1.2	7.6	Complied with all MEQS during 1999 and 2000.
		2000	0.01	0.02	0.29	0.01	0.01	3.2	7.8	
10. Lac Matagami (Noranda), Matagami	Final Effluent	1999	–	0.01	0.02	0.02	0.09	3.5	8.3	
		2000	–	0.02	0.02	0.02	0.12	3.1	8.2	
11. Lac Tio (QIT), Havre St-Pierre	Mine Water	1999	<0.01	0.06	0.25	0.03	0.05	269.0	7.6	Above MEQS for Cu for 1 month, Ni for 1 month and TSM for 4 months during 1999. Above MEQS for Cu for 2 months, Pb for 2 months, Zn for 1 month and TSM for 4 months in 2000.
		2000	0.02	1.88	0.25	0.19	0.12	41.0	7.7	
12. Louvicourt (Novicourt), Val-d'Or	Polishing Pond	1999	<0.01	0.03	0.04	0.01	0.02	5.7	7.6	
		2000	<0.01	0.02	0.04	0.01	0.05	10.2	8.0	

Table 11: Effluent Quality for Metal Mines in Quebec in 1999 and 2000

Mine Name (Company) Location	Discharge Point	Year	Annual Average Quality of Effluent Metals and TSM in mg/L							Comments
			As	Cu	Ni	Pb	Zn	TSM	pH	
13. Mont-Wright (Québec Cartier), Fermont	Mine Water, Lake Hesse South, HS-1	1999	<0.01	<0.01	<0.01	0.05	0.04	3.4	7.1	
		2000	<0.01	0.01	0.01	0.05	0.01	5.1	7.2	
	Mine Water, Mont-Wright West,LW-1	1999	<0.01	<0.01	<0.01	0.05	0.02	1.3	7.0	No samples taken in summer because water level was very high and helicopter could not land in 2000, whereas winter-time effluent was frozen. Not assessed.
		2000								
	Mine Water, Mont Survie South, MS-2	1999	<0.01	0.03	0.01	0.05	0.03	7.1	6.6	Above MEQS for TSM for 1 month in 2000.
		2000	<0.01	0.01	0.04	0.05	0.01	52.1	6.5	
14. Mouska (Cambior), Cadillac	Mine Water	1999	<0.01	0.03	0.04	0.01	0.01	8.5	7.7	
		2000	–	0.03	0.04	–	–	6.6	7.8	
15. Niobec (Cambior), St-Honoré	Mine Water	1999	–	0.04	0.04	0.05	0.04	12.1	7.9	Discharged from April to December in 2000.
		2000	–	0.01	0.03	0.03	0.03	14.6	7.8	
	Tailings Pond	1999	–	0.01	0.04	0.06	0.02	7.0	7.8	Discharged from April to December in 2000.
		2000	–	0.01	0.03	0.03	0.01	7.7	7.9	
	Combined Effluent	1999	–	0.01	–	0.07	–	15.0	7.7	Above MEQS for TSM for 1 month in 2000. Discharged from October 1999 to March 2000.
		2000	–	0.01	0.04	0.05	0.02	24.3	7.7	
16. Principale (Campbell Resources), Chibougamau	Effluent No 2	1999	–	0.17	–	0.04	0.01	3.7	7.1	Above MEQS for pH for 1 month in 1999 and Cu for 1 month in 2000.
		2000	–	0.19	–	0.03	–	4.3	7.1	
17. Les Mines Selbaie (Gencor), Joutel	Polishing Pond	1999	0.05	0.04	0.05	0.05	0.33	2.9	9.4	Above MEQS for Zn for 2 months in 1999.
		2000	0.03	0.04	0.12	0.03	0.24	2.2	8.9	
18. Sigma 2 (McWatters), Val-d'Or	Mine Water Site - 1	1999	<0.01	0.01	0.04	0.01	0.01	5.5	8.2	No effluent discharged during 2000.
		2000								
	Mine Water Site - 2	1999	<0.01	0.01	0.04	0.02	0.01	5.2	7.8	No effluent discharged during 2000.
		2000								
19. Troilus (Inmet), Chibougamau	Troilus PR-1	1999	0.05	0.03	0.01	0.03	0.02	13.1	7.7	Above MEQS for TSM for 1 month in 1999.
		2000	0.05	0.02	0.03	0.02	0.40	10.9	7.8	
	Troilus BS-2	1999	0.05	0.04	0.01	0.01	0.01	13.5	8.1	
		2000	0.05	0.04	0.02	0.03	0.04	7.1	7.9	

Table 12: Effluent Quality for Metal Mines in New Brunswick in 1999 and 2000

Mine Name (Company), Location	Discharge Point	Year	Annual Average Quality of Effluent							Comments
			Metals and TSM in mg/L							
			As	Cu	Ni	Pb	Zn	TSM	pH	
1. Brunswick (Noranda), Bathurst	Final Effluent	1999	–	0.01	–	0.01	0.22	3.2	8.9	
		2000	–	0.01	–	0.01	0.23	4.2	8.9	

Table 13: Effluent Quality for Metal Mines in Newfoundland in 1999 and 2000

Mine Name (Company), Location	Discharge Point	Year	Annual Average Quality of Effluent							Comments
			Metals and TSM in mg/L							
			As	Cu	Ni	Pb	Zn	TSM	pH	
1. Iron Ore Company of Canada (Iron Ore Company of Canada), Labrador City	New Tailings Pump House	1999	<0.1	0.03	<0.02	<0.05	0.05	–	6.6	No TSM data reported in 1999 and 2000. Not assessed.
		2000	<0.1	0.01	<0.02	<0.05	0.01	–	8.0	
	Old Tailings Pump House	1999	<0.1	0.02	<0.02	<0.05	0.02	–	7.9	No TSM data reported in 1999 and 2000. Not assessed.
		2000	<0.1	0.01	<0.02	<0.05	0.01	–	8.0	
2. Scully (Stelco), Wabush	East Pit No. 1	1999	–	–	–	–	–	1.4	6.4	
		2000	–	–	–	–	–	1.8	7.0	
	East Pit No. 2	1999	–	–	–	–	–	1.9	6.1	
		2000	–	–	–	–	–	3.1	6.6	
	South Pit	1999	–	–	–	–	–	1.0	6.5	
		2000	–	–	–	–	–	2.3	7.0	
	Flora Lake	1999	–	–	–	–	–	1.3	6.5	Not assessed.
		2000	–	–	–	–	–	3.1	7.0	

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SENES Consultants Limited, *Report on Technologies Applicable to Management of Canadian Mining Effluents*, prepared for Environment Canada (March 1999).

APPENDIX A: MINING COMPANIES INCLUDED IN THE ASSESSMENT

Barrick Gold Corporation
Black Hawk Mining Inc.
Boliden Westmin (Canada) Ltd.
Breakwater Resources Ltd.
Cabot Corporation
Cambior Inc.
Cameco Corporation
Campbell Resources Inc.
Cogema Resources Inc.
Cominco Ltd.
Craigmont Mines Ltd.
Falconbridge Ltd.
Gencor Ltd.
Homestake Canada Inc.
Hudson Bay Mining & Smelting Co. Ltd.
Inco Ltd.
Inmet Mining Corporation
Iron Ore Company of Canada
Kinross Gold Corporation
McWatters Mining Inc.
Noranda Inc.
Novicourt Inc.
Prime Resources Group Inc.
Princeton Mining Corporation.
QIT-Fer et Titane Inc.
Québec Cartier Mining Co.
Richmont Mines Inc.
Société Minière Raglan du Québec
Stelco Inc.
Teck Corporation
Thompson Creek Mining Co.
Western Québec Mines Inc.

APPENDIX B: MINE EFFLUENT QUALITY COMPLIANCE, ACHIEVEMENT AND EXCEEDANCES FOR 1999 AND 2000

Note to Readers

The tables presented in this Appendix summarize the effluent quality data for mines subject to the MMLER and MMLEG in 1999 and 2000. The summaries include site identification (i.e., mine/mill name and effluent discharge name), percentage of monthly effluent quality data meeting the prescribed limits or performance objectives, the total number of samples, the number of samples that exceeded at least one limit for a given month, and the distribution of the non-compliant parameters. The parameters included are: Total Suspended Matter (TSM), Arsenic (As), Copper (Cu), Nickel (Ni), Lead (Pb), Zinc (Zn), Total Radium 226 (Ra-226) and pH.

Table B1: Performance Summary for Mines Subject to MMLER in 1999

Metal Mining Liquid Effluent Regulations (MMLER)

1999 Monthly Average Data Quality of Mining Effluents

SITE IDENTIFICATION														
Company Name	Mine/Mill Name	Effluent Discharge Name	Monthly Quality %	Samples Total	Samples Failed	TSM **25** mg/L	As **0.5** mg/L	Cu **0.3** mg/L	Ni **0.5** mg/L	Pb **0.2** mg/L	Zn **0.5** mg/L	Ra-226 T **10** p Ci/L	**pH 6**
CAMBIOR INC.	Bouchard-Hébert	Final Effluent	100	12	0								
BARRICK GOLD CORPORATION	Bousquet #2	Mine Water	100	12	0								
COGEMA RESOURCES INC.	Cluff Lake	Treated Effluent	100	12	0								
HOMESTAKE CANADA INC	Eskay Creek	D7	100	12	0								
HOMESTAKE CANADA INC	Eskay Creek	W20	100	12	0								
RICHMONT MINES INC.	Francoeur	Settling Pond Discharge	100	12	0								
CAMBIOR INC.	Gonzague Langlois	Tailings Pond	100	12	0								
CAMBIOR INC.	Gonzague Langlois	Ditch 3A	100	12	0								
CAMBIOR INC.	Gonzague Langlois	Ditch 3C	100	12	0								
CAMBIOR INC.	Gonzague Langlois	Ditch 4	100	12	0								
COMINCO LTD.	Highland Valley Copper		No effluent discharged during 1999										
KINROSS GOLD CORPORATION	Hoyle Pond		No effluent discharged during 1999										
PRINCETON MINING CORPORATION	Huckleberry	SC-02	100	12	0								
PRINCETON MINING CORPORATION	Huckleberry	SC-04	100	12	0								
PRINCETON MINING CORPORATION	Huckleberry	SC-05	100	12	0								
CAMPBELL RESOURCES INC.	Joe Mann	Final Effluent	100	12	0								
WESTERN QUEBEC MINES INC.	Joubi	Mine Water	100	12	0								
SOCIETE MINIERE RAGLAN DU QUEBEC	Katinniq	DIR-UT	100	12	0								
SOCIETE MINIERE RAGLAN DU QUEBEC	Katinniq	DIR-HS	100	12	0								
CAMECO CORPORATION	Key Lake	Treated Mill Effluent	100	12	0								
BLACK HAWK MINING INC.	Keystone	Sediment. #1	100	12	0								
BLACK HAWK MINING INC.	Keystone	Sediment. #2	100	12	0								
NOVICOURT INC.	Louvicourt	Polishing Pond Discharge	100	12	0								
CAMECO CORPORATION	McArthur River		100	12	0								
COGEMA RESOURCES INC.	McClean Lake	JEB WTP Effluent	100	12	0								
COGEMA RESOURCES INC.	McClean Lake	SUE WTP Effluent	100	12	0								
CAMBIOR INC.	Mouska	Mine Water	100	12	0								
BOLIDEN WESTMIN (Canada) LIMITED	Myra Falls Operations	Myra Pond	100	12	0								
TECK CORPORATION & CAMBIOR INC.	Niobec	Tailings Pond	100	12	0								
TECK CORPORATION & CAMBIOR INC.	Niobec	Mine Water	100	12	0								
TECK CORPORATION & CAMBIOR INC.	Niobec	Combined Effluent	100	12	0								
COMINCO LTD.	Polaris	Sample Station 262-7	100	12	0								
CAMECO CORPORATION	Rabbit Lake	Treated Mill Effluent Station 2.3.3	100	12	0								
McWATTERS MINING INC.	Sigma #2	Mine Water, Site - 1	100	12	0								
McWATTERS MINING INC.	Sigma #2	Mine Water, Site - 2	100	12	0								
FALCONBRIDGE LIMITED	Thayer Lindsley		No effluent discharged during 1999										
INMET MINING CORPORATION	Troilus	BS-2	100	12	0								
HUDSON BAY MINING AND SMELTING CO., LTD	Trout Lake	Treatment Plant Discharge	100	12	0								
PRINCETON MINING CORPORATION	Huckleberry	SC-03	91	12	1	1							
PRINCETON MINING CORPORATION	Huckleberry	East Zone Ditch	91	12	1	1							
HUDSON BAY MINING AND SMELTING CO., LTD	Konuto		91	12	1	1							
INMET MINING CORPORATION	Troilus	PR-1	91	12	1	1							
CRAIGMONT MINES LTD.	Craigmont	Adit Water	Not Assessed										
GENCOR LTD.	Les Mines Selbaie	Polishing Pond Discharge	83	12	2						2		
PRIME RESOURCES GROUP INC.	Snip	Tailings Pond Discharge	75	12	3	3							
Effluents - Regulations			**98.2**	**492**	**9**	**7**					**2**		

Note: Performance percentages are based on effluent discharged points.

Table B 2: Performance Summary for Mines Subject to MMLER in 2000

Metal Mining Liquid Effluent Regulations (MMLER)

2000 Monthly Average Data Quality of Mining Effluents

SITE IDENTIFICATION			Monthly Quality %	Samples Total	Samples Failed	TSM 25 mg/L	As 0.5 mg/L	Cu 0.3 mg/L	Ni 0.5 mg/L	Pb 0.2 mg/L	Zn 0.5 mg/L	Ra-226 T 10 p Ci/L	pH 6
Company Name	**Mine/Mill Name**	**Effluent Discharge Name**											
CAMBIOR INC.	Bouchard-Hébert	Final Effluent	100	12	0								
BARRICK GOLD CORPORATION	Bousquet #2	Mine Water	100	12	0								
COGEMA RESOURCES INC.	Cluff Lake	Treated Effluent	100	12	0								
HOMESTAKE CANADA INC	Eskay Creek	D7	100	12	0								
HOMESTAKE CANADA INC	Eskay Creek	W20	100	12	0								
RICHMONT MINES INC.	Francoeur	Settling Pond Discharge	100	12	0								
CAMBIOR INC.	Gonzague Langlois	Tailings Pond	100	12	0								
CAMBIOR INC.	Gonzague Langlois	Ditch 3A	100	12	0								
CAMBIOR INC.	Gonzague Langlois	Ditch 4	100	12	0								
COMINCO LTD.	Highland Valley Copper		No effluent discharged during 2000										
KINROSS GOLD CORPORATION	Hoyle Pond		No effluent discharged during 2000										
PRINCETON MINING CORPORATION	Huckleberry	SC-02	100	12	0								
PRINCETON MINING CORPORATION	Huckleberry	SC-03	100	12	0								
PRINCETON MINING CORPORATION	Huckleberry	SC-04	100	12	0								
PRINCETON MINING CORPORATION	Huckleberry	SC-05	100	12	0								
PRINCETON MINING CORPORATION	Huckleberry	East Zone	100	12	0								
CAMPBELL RESOURCES INC.	Joe Mann	Final Effluent	100	12	0								
WESTERN QUEBEC MINES INC.	Joubi	Mine Water	Mine closed in 2000										
SOCIETE MINIERE RAGLAN DU QUEBEC	Katinniq	DIR-HS	100	12	0								
CAMECO CORPORATION	Key Lake	Treated Mill Effluent	100	12	0								
BLACK HAWK MINING INC.	Keystone	Sediment. #1	No effluent discharged during 2000. Mine closed in May 2000										
BLACK HAWK MINING INC.	Keystone	Sediment. #2	No effluent discharged during 2000. Mine closed in May 2000										
GENCOR LTD.	Les Mines Selbaie	Polishing Pond Discharge	100	12	0								
NOVICOURT INC.	Louvicourt	Polishing Pond Discharge	100	12	0								
CAMECO CORPORATION	McArthur River		100	12	0								
COGEMA RESOURCES INC.	McClean Lake	JEB WTP Effluent	100	12	0								
COGEMA RESOURCES INC.	McClean Lake	SUE WTP Effluent	100	12	0								
CAMBIOR INC.	Mouska	Mine Water	100	12	0								
BOLIDEN WESTMIN (Canada) LIMITED	Myra Falls Operations	Myra Pond	100	12	0								
TECK CORPORATION & CAMBIOR INC.	Niobec	Tailings Pond	100	12	0								
TECK CORPORATION & CAMBIOR INC.	Niobec	Mine Water	100	12	0								
COMINCO LTD.	Polaris	Sample Station 262-7	100	12	0								
CAMECO CORPORATION	Rabbit Lake	Treated Mill Effluent Station 2.3.3	100	12	0								
McWATTERS MINING INC.	Sigma #2	Mine Water, Site - 1	No effluent discharged during 2000										
McWATTERS MINING INC.	Sigma #2	Mine Water, Site - 2	No effluent discharged during 2000										
PRIME RESOURCES GROUP INC.	Snip	Tailings Pond Discharge	Mine closed in 2000										
FALCONBRIDGE LIMITED	Thayer Lindsley		No effluent discharged during 2000										
INMET MINING CORPORATION	Troilus	PR-1	100	12	0								
INMET MINING CORPORATION	Troilus	BS-2	100	12	0								
HUDSON BAY MINING AND SMELTING CO., LTD	Trout Lake	Treatment Plant Discharge	100	12	0								
CAMBIOR INC.	Gonzague Langlois	Ditch 3C	91	12	1	1							
SOCIETE MINIERE RAGLAN DU QUEBEC	Katinniq	DIR-UT	91	12	1	1							
TECK CORPORATION & CAMBIOR INC.	Niobec	Combined Effluent	91	12	1	1							
CRAIGMONT MINES LTD.	Craigmont	Adit Water	Not Assessed										
HUDSON BAY MINING AND SMELTING CO., LTD	Konuto		50	12	6	6							
Effluents - Regulations			**97.86**	**420**	**9**	**9**							

Note: Performance percentages are based on effluent discharge points.

Table B 3: Performance Summary for Mines Subject to MMLEG in 1999

Metal Mining Liquid Effluent Guidelines (MMLEG)

1999 Monthly Average Data Quality of Mining Effluents

SITE IDENTIFICATION			Monthly Quality %	Samples Total	Samples Failed	TSM 25 mg/L	As 0.5 mg/L	Cu 0.3 mg/L	Ni 0.5 mg/L	Pb 0.2 mg/L	Zn 0.5 mg/L	Ra-226 T 10 p Ci/L	pH 6
Company Name	Mine/Mill Name	Effluent Discharge Name											
INCO LIMITED	Birchtree	LP#1	100	12	0								
INCO LIMITED	Birchtree	LP#2	100	12	0								
NORANDA INC.	Brunswick #12	Final Effluent	100	12	0								
IRON ORE COMPANY OF CANADA	Carol	New Tailings Pump House	Not assessed										
IRON ORE COMPANY OF CANADA	Carol	Old Tailings Pump House	Not assessed										
INCO LIMITED	Copper Cliff Treatment Plant	Copper Cliff Creek	100	12	0								
THOMPSON CREEK MINING LTD.	Endako	New East Dam Discharge	Not assessed										
THOMPSON CREEK MINING LTD.	Endako	#1 Pond North Dam Discharge	Not assessed										
THOMPSON CREEK MINING LTD.	Endako	#1 Pond 1A Dam Discharge	Not assessed										
HUDSON BAY MINING AND SMELTING CO., LTD	Flin Flon Mill	Tailings Pond North Weir	100	12	0								
NORANDA INC.	Gaspé Copper	Combined Effluent	100	12	0								
NORANDA INC.	Horne Division	Tailings Pond Effluent P1-06	100	12	0								
NORANDA INC.	Lac Matagami	Final Effluent	100	12	0								
FALCONBRIDGE LTD.	Lockerby	Mine Water	100	12	0								
QUEBEC CARTIER MINING COMPANY	Mont-Wright	Mine Water, Lake Hesse South, HS-1	100	12	0								
QUEBEC CARTIER MINING COMPANY	Mont-Wright	Mine Water, Mont Survie South, MS-2	100	12	0								
QUEBEC CARTIER MINING COMPANY	Mont-Wright	Mine Water, Mont-Wright West, LW-1	Not assessed										
BREAKWATER RESOURCES LTD.	Nanisivik	Pond Effluent 159 - 4	100	12	0								
INCO LIMITED	Nolin Creek Treatment Plant	Nolin Creek	100	12	0								
HUDSON BAY MINING AND SMELTING CO., LTD	Ruttan	Brehaut Lake Outfall	100	12	0								
STELCO INC.	Scully	East Pit No.1	100	12	0								
STELCO INC.	Scully	East Pit No. 2	100	12	0								
STELCO INC.	Scully	South Pit	100	12	0								
STELCO INC.	Scully	Flora Lake	Not assessed										
FALCONBRIDGE LTD.	Strathcona (Moose Lake)		100	12	0								
INCO LIMITED	Thompson Cplx & Birchtree	T3 Culvert	100	12	0								
INCO LIMITED	Thompson Mill	Tailings Pond Discharge	100	12	0								
INCO LIMITED	Crean Hill		91	12	1				1				
THOMPSON CREEK MINING LTD.	Endako	#2 Pond South Dam West Discharge	Not assessed										
INCO LIMITED	Garson		91	12	1				1				
CAMPBELL RESOURCES INC.	Principale	Effluent No. 2	91	12	1								1
COMINCO LTD.	Sullivan	Kootenay	91	12	1						1		
FALCONBRIDGE LTD.	Kidd Creek	Tailings Pond Effluent	83	12	2						2		
NORANDA INC.	Horne Division	Tailings Pond #12	75	12	3				1		2		
QIT FER ET TITANE INC.	Lac Tio	Mine Water	66	12	6	4		1	1				
CABOT CORPORATION	Bernic Lake	Tailings Pond Discharge	58	12	5	5							
Effluents - Guidelines			94.05	336	20	9		1	4		5		1

Note: Performance percentages are based on effluent discharge points.

Table B 4: Performance Summary for Mines Subject to MMLEG in 2000

Metal Mining Liquid Effluent Guidelines (MMLEG)

2000 Monthly Average Data Quality of Mining Effluents

SITE IDENTIFICATION			Monthly Quality %	Samples Total	Samples Failed	TSM **25** mg/L	As **0.5** mg/L	Cu **0.3** mg/L	Ni **0.5** mg/L	Pb **0.2** mg/L	Zn **0.5** mg/L	Ra-226 T **10** p Ci/L	pH **6**
Company Name	**Mine/Mill Name**	**Effluent Discharge Name**											
INCO LIMITED	Birchtree	LP#1	100	12	0								
INCO LIMITED	Birchtree	LP#2	100	12	0								
NORANDA INC.	Brunswick #12	Final Effluent	100	12	0								
IRON ORE COMPANY OF CANADA	Carol	New Tailings Pump House	Not assessed										
IRON ORE COMPANY OF CANADA	Carol	Old Tailings Pump House	Not assessed										
INCO LIMITED	Crean Hill		100	12	0								
THOMPSON CREEK MINING LTD.	Endako	New East Dam Discharge	Not assessed										
THOMPSON CREEK MINING LTD.	Endako	#1 Pond North Dam Discharge	Not assessed										
THOMPSON CREEK MINING LTD.	Endako	#1 Pond 1A Dam Discharge	Not assessed										
THOMPSON CREEK MINING LTD.	Endako	#2 Pond South Dam West Discharge	Not assessed										
HUDSON BAY MINING AND SMELTING CO., LTD	Flin Flon Mill	Tailings Pond North Weir	100	12	0								
INCO LIMITED	Garson		100	12	0								
NORANDA INC.	Gaspé Copper	Combined Effluent	100	12	0								
NORANDA INC.	Horne Division	Tailings Pond Effluent Pl-06	100	12	0								
FALCONBRIDGE LTD.	Kidd Creek	Tailings Pond Effluent	100	12	0								
NORANDA INC.	Lac Matagami	Final Effluent	100	12	0								
FALCONBRIDGE LTD.	Lockerby	Mine Water	100	12	0								
QUEBEC CARTIER MINING COMPANY	Mont-Wright	Mine Water, Lake Hesse South, HS-1	100	12	0								
QUEBEC CARTIER MINING COMPANY	Mont-Wright	Mine Water, Mont-Wright West, LW-1	Not assessed										
BREAKWATER RESOURCES LTD.	Nanisivik	Pond Effluent 159 - 4	100	12	0								
HUDSON BAY MINING AND SMELTING CO., LTD	Rutlan	Brehaut Lake Outfall	100	12	0								
STELCO INC.	Scully	East Pit No.1	100	12	0								
STELCO INC.	Scully	East Pit No. 2	100	12	0								
STELCO INC.	Scully	South Pit	100	12	0								
STELCO INC.	Scully	Flora Lake	Not assessed										
FALCONBRIDGE LTD.	Strathcona (Moose Lake)		100	12	0								
COMINCO LTD.	Sullivan	Kootenay	100	12	0								
INCO LIMITED	Thompson Cplx & Birchtree	T3 Culvert	100	12	0								
CABOT CORPORATION	Bernic Lake	Tailings Pond Discharge	91	12	1	1							
INCO LIMITED	Copper Cliff Treatment Plant	Copper Cliff Creek	91	12	1				1				
QUEBEC CARTIER MINING COMPANY	Mont-Wright	Mine Water, Mont Survie South, MS-2	91	12	1	1							
INCO LIMITED	Nolin Creek Treatment Plant	Nolin Creek	91	12	1				1				
CAMPBELL RESOURCES INC.	Principale	Effluent No. 2	91	12	1			1					
NORANDA INC.	Horne Division	Tailings Pond #12	83	12	2						2		
INCO LIMITED	Thompson Mill	Tailings Pond Discharge	75	12	3				3				
QIT FER ET TITANE INC.	Lac Tio	Mine Water	58	12	9	4		2		2	1		
Effluents - Guidelines			94.34	336	19	6		3	5	2	3		

Note: Performance percentages are based on effluent discharge points.

APPENDIX C: MINE MONTHLY AVERAGE EFFLUENT QUALITY DATA

Note to Readers

The tables presented in this Appendix show the monthly average sample concentrations for each mining effluent. Supporting information includes:

- Mine/Mill Name
- Company Name
- Mine Operator Name
- Location
  - City
  - Province
  - Site Coordinates (latitude and longitude)
- Mining Sector
  - Precious Metals
  - Base Metals
  - Uranium
  - Iron Ore
- Mine Product(s)
- Regulatory Status (subject to MMLER or MMLEG)
- Identification of Effluent Discharge Point
- Comments (if applicable)
- Parameter Limits
- Monthly Average Concentrations

Highlighted data indicates that a monthly effluent quality standard (MEQS) is exceeded for a given month. Tables are sorted in alphabetic order based on mine/mill name.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Bernic Lake	**Latitude/Longitude**	50 26 N / 95 27 W
Company Name	CABOT CORPORATION	**Sector/Product**	Base Metals / Lithium-Cesium-Rubidium
Operator Name	Tantalum Mining Corporation of Canada Limited	**Regulatory Status**	Guidelines
Location	Lac du Bonnet, Manitoba	**Effluent Discharge**	Tailings Pond Discharge
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	58800	67800	63900	64500	65600	63500	57000	58200	63200	20800	36100	69500
TSM	(mg/L)	25	11.800	10.960	27.280	35.970	16.800	20.300	22.000	27.280	33.200	32.600	13.200	11.730
As	(mg/L)	0.5	-	0.012	-	-	-	0.013	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	0.003	-	-	-	0.012	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	0.005	-	-	-	0.018	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	0.001	-	-	-	0.001	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	0.020	-	-	-	0.020	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.0	7.2	7.2	7.7	9.3	9.6	9.6	9.6	9.2	9.0	8.7	8.3

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	60800	70200	74600	74700	70600	67800	67200	68700	74100	94400	66100	57300
TSM	(mg/L)	25	8.200	13.600	30.000	17.300	13.000	19.400	19.920	17.450	24.400	21.200	22.700	15.000
As	(mg/L)	0.5	-	-	-	-	-	-	0.011	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	0.002	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	0.002	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	0.001	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	0.020	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.3	7.4	7.5	8.3	9.6	9.3	9.6	8.4	8.5	8.4	8.0	7.6

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Birchtree	**Latitude/Longitude**	55 42 N / 97 55 W
Company Name	INCO LIMITED	**Sector/Product**	Base Metals / Nickel-Copper
Operator Name	Inco Limited	**Regulatory Status**	Guidelines
Location	Thompson, Manitoba	**Effluent Discharge**	LP#1
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	0	133920	147312	112320	53568	31248	164160	93744	31248	53568
TSM	(mg/L)	25	-	-	-	4.000	5.000	0.750	4.000	0.010	2.800	1.000	0.010	2.750
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	0.043	0.020	0.018	0.053	0.038	0.018	0.023	0.028	0.043
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	7.0	7.7	7.7	7.9	8.1	7.2	7.4	7.2	7.0

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	53568	0	14385	145152	548532	82565	116064	169632	164160	116064	120960	40320
TSM	(mg/L)	25	8.000	-	5.000	4.000	4.000	2.000	3.000	1.000	2.000	1.000	1.000	2.750
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	0.030	-	0.270	0.040	0.040	0.040	0.020	0.030	0.020	0.050	0.050	0.070
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.6	-	7.1	7.1	7.2	7.4	7.7	7.7	7.5	7.6	7.1	7.6

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Birchtree	**Latitude/Longitude**	55 42 N / 97 55 W
Company Name	INCO LIMITED	**Sector/Product**	Base Metals / Nickel-Copper
Operator Name	Inco Limited	**Regulatory Status**	Guidelines
Location	Thompson, Manitoba	**Effluent Discharge**	LP#2
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	14566	14629	16670	19505	19353	18914	18987	30648	22223	18526	11028	11935
TSM	(mg/L)	25	0.750	0.010	0.800	2.000	2.250	0.010	2.330	0.010	1.800	0.500	0.750	4.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	0.075	0.180	0.160	0.168	0.218	0.150	0.078	0.038	0.200	0.185	0.330	0.212
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	7.3	7.2	7.3	7.7	7.5	7.6	7.4	7.6	7.6	7.3	7.1

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	13241	13466	20456	23818	26992	24303	25758	27840	25028	20470	14592	18133
TSM	(mg/L)	25	-	1.250	0.600	0.750	1.800	7.000	1.000	2.000	2.500	0.750	1.000	1.330
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	0.293	0.100	0.394	0.170	0.158	0.150	0.150	0.194	0.125	0.265	0.174	0.260
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.4	7.0	7.4	7.5	7.2	7.0	7.1	6.8	7.4	7.4	7.4	7.4

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Bouchard-Hébert	**Latitude/Longitude**	48 23 N / 78 54 W
Company Name	CAMBIOR INC.	**Sector/Product**	Base Metals / Zinc-Copper
Operator Name	Cambior Inc.	**Regulatory Status**	Regulations
Location	30 km NE Rouyn-Noranda, Québec	**Effluent Discharge**	Final Effluent
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	14400	15264	0	11304	13478	13882	13584	8803
TSM	(mg/L)	25	-	-	-	-	3.200	3.700	-	3.400	9.100	4.400	2.700	4.100
As	(mg/L)	0.5	-	-	-	-	0.001	-	-	-	-	-	0.010	-
Cu	(mg/L)	0.3	-	-	-	-	0.030	0.060	-	0.050	0.040	0.050	0.040	0.060
Ni	(mg/L)	0.5	-	-	-	-	0.020	-	-	-	-	-	0.070	-
Pb	(mg/L)	0.2	-	-	-	-	0.005	-	-	-	-	-	0.010	-
Zn	(mg/L)	0.5	-	-	-	-	0.100	0.110	-	0.050	0.110	0.050	0.110	0.200
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	8.7	8.4	-	8.7	8.1	6.6	7.3	8.3

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	0	9094	12159	7063	6311	13846	7584	0
TSM	(mg/L)	25	-	-	-	-	-	2.400	4.700	10.400	15.000	7.800	8.700	-
As	(mg/L)	0.5	-	-	-	-	-	0.010	-	-	0.001	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	0.080	0.040	0.040	0.040	0.040	0.050	-
Ni	(mg/L)	0.5	-	-	-	-	-	0.090	-	-	0.010	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	0.010	-	-	0.010	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	0.010	0.030	0.020	0.030	0.060	0.150	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	8.4	8.5	8.6	8.7	8.5	7.8	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Bousquet #2	**Latitude/Longitude**	48 15 N / 78 29 W
Company Name	BARRICK GOLD CORPORATION	**Sector/Product**	Precious Metals / Gold-Copper
Operator Name	Barrick Gold Corporation	**Regulatory Status**	Regulations
Location	Preissac, Québec	**Effluent Discharge**	Mine Water
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	-	-	-	-	0	0	-	2621	432
TSM	(mg/L)	25	-	-	-	2.000	1.000	1.000	2.000	-	-	2.000	2.000	3.200
As	(mg/L)	0.5	-	-	-	0.002	0.002	0.002	0.002	-	-	0.002	0.003	0.004
Cu	(mg/L)	0.3	-	-	-	0.002	0.002	0.024	0.030	-	-	0.010	0.030	0.030
Ni	(mg/L)	0.5	-	-	-	0.040	0.040	0.040	0.050	-	-	0.070	0.080	0.050
Pb	(mg/L)	0.2	-	-	-	0.010	0.020	0.020	0.010	-	-	0.010	0.020	0.010
Zn	(mg/L)	0.5	-	-	-	0.100	0.040	0.070	0.040	-	-	0.050	0.040	0.050
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	7.2	7.2	7.4	7.5	-	-	7.2	7.6	7.0

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	107	127	790	1657	3522	360	190	123	57	42	103	12
TSM	(mg/L)	25	4.000	11.000	1.000	4.000	6.000	0.500	2.000	3.000	4.000	4.000	5.000	0.400
As	(mg/L)	0.5	0.003	0.003	0.003	0.004	0.002	0.008	0.006	0.002	0.002	0.002	0.013	0.001
Cu	(mg/L)	0.3	0.030	0.020	0.020	0.020	0.030	0.030	0.020	0.020	0.020	0.030	0.020	0.020
Ni	(mg/L)	0.5	0.050	0.050	0.050	0.040	0.050	0.050	0.040	0.050	0.050	0.050	0.040	0.050
Pb	(mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.010	0.010	0.001
Zn	(mg/L)	0.5	0.070	0.070	0.060	0.040	0.030	0.040	0.040	0.040	0.030	0.040	0.020	0.030
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.0	7.1	7.2	7.3	7.3	7.2	7.1	7.1	7.2	7.2	7.2	7.4

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Brunswick #12	**Latitude/Longitude**	47 28 N / 65 53 W
Company Name	NORANDA MINING AND EXPLORATION INC.	**Sector/Product**	Base Metals / Lead-Zinc-Copper-Silver
Operator Name	Noranda Mining and Exploration Inc.	**Regulatory Status**	Guidelines
Location	Bathurst, New Brunswick	**Effluent Discharge**	Final Effluent
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	788336	679000	1648674	2340085	1341000	684175	899000	834755	1040800	1570000	905862	1520000
TSM	(mg/L)	25	2.500	2.100	2.000	2.000	1.500	2.100	5.400	5.000	4.300	5.100	3.900	2.600
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.010	0.010	0.010	0.010	0.010	0.020	0.010	0.010	0.040	0.010	0.010	0.010
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Zn	(mg/L)	0.5	0.360	0.110	0.160	0.300	0.160	0.160	0.130	0.110	0.250	0.270	0.170	0.420
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.3	9.4	9.2	9.2	8.2	8.8	8.6	8.7	9.2	9.1	9.0	9.2

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	625000	785000	1530000	2150000	970600	760000	664000	757000	560000	243461	1344000	1314000
TSM	(mg/L)	25	3.500	2.500	1.700	4.900	2.500	5.000	5.200	5.200	5.200	7.000	2.400	5.800
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.010	0.020	0.010	0.010
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Zn	(mg/L)	0.5	0.120	0.140	0.260	0.490	0.170	0.190	0.180	0.160	0.210	0.380	0.100	0.420
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.4	9.4	9.2	9.1	8.8	8.8	8.5	8.5	9.0	8.9	9.1	9.1

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Carol	**Latitude/Longitude**	53 04 N / 66 57 W
Company Name	IRON ORE COMPANY OF CANADA	**Sector/Product**	Iron / Iron
Operator Name	Iron Ore Company of Canada	**Regulatory Status**	Guidelines
Location	Labrador City, Newfoundland and Labrador	**Effluent Discharge**	New Tailings Pump House
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	-	0.100	0.100
Cu	(mg/L)	0.3	-	0.019	0.005	0.011	0.023	0.003	0.006	0.014	0.038	-	0.006	0.005
Ni	(mg/L)	0.5	-	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	-	0.020	0.020
Pb	(mg/L)	0.2	-	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	-	0.050	0.050
Zn	(mg/L)	0.5	-	0.005	0.005	0.005	0.011	0.006	0.005	0.008	0.005	-	0.005	0.007
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	7.8	7.8	8.2	7.8	7.9	8.2	8.0	8.2	-	8.0	8.0

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	-	0.100	0.100
Cu	(mg/L)	0.3	-	0.019	0.005	0.011	0.023	0.003	0.006	0.014	0.038	-	0.006	0.005
Ni	(mg/L)	0.5	-	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	-	0.020	0.020
Pb	(mg/L)	0.2	-	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	-	0.050	0.050
Zn	(mg/L)	0.5	-	0.005	0.005	0.005	0.011	0.006	0.005	0.008	0.005	-	0.005	0.007
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	7.8	7.8	8.2	7.8	7.9	8.2	8.0	8.2	-	8.0	8.0

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Carol	**Latitude/Longitude**	53 04 N / 66 57 W
Company Name	IRON ORE COMPANY OF CANADA	**Sector/Product**	Iron / Iron
Operator Name	Iron Ore Company of Canada	**Regulatory Status**	Guidelines
Location	Labrador City, Newfoundland and Labrador	**Effluent Discharge**	Old Tailings Pump House
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	-	0.100	0.100
Cu	(mg/L)	0.3	-	0.006	0.012	0.013	0.025	0.003	0.014	0.003	0.040	-	0.022	0.003
Ni	(mg/L)	0.5	-	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	-	0.020	0.020
Pb	(mg/L)	0.2	-	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	-	0.050	0.050
Zn	(mg/L)	0.5	-	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	-	0.012	0.016
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	7.9	8.0	7.8	8.0	8.0	8.2	8.1	8.1	-	8.0	8.1

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	-	0.100	0.100
Cu	(mg/L)	0.3	-	0.006	0.012	0.013	0.025	0.003	0.014	0.003	0.040	-	0.022	0.003
Ni	(mg/L)	0.5	-	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	-	0.020	0.020
Pb	(mg/L)	0.2	-	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	-	0.050	0.050
Zn	(mg/L)	0.5	-	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	-	0.012	0.016
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	7.9	8.0	7.8	8.0	8.0	8.2	8.1	8.1	-	8.0	8.1

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Cluff Lake	**Latitude/Longitude**	58 23 N / 109 32 W
Company Name	COGEMA RESOURCES INC.	**Sector/Product**	Uranium / Uranium
Operator Name	Cogema Resources Inc.	**Regulatory Status**	Regulations
Location	Saskatoon, Saskatchewan	**Effluent Discharge**	Treated Effluent
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	87884	92895	133214	143680	143493	93801	87110	96732	71700	61769	60700	74248
TSM	(mg/L)	25	5.200	3.200	3.300	5.300	2.400	4.400	3.400	3.100	3.800	4.200	8.000	8.200
As	(mg/L)	0.5	0.004	0.003	0.004	0.004	0.006	0.0005	0.003	0.001	0.005	0.002	0.002	0.013
Cu	(mg/L)	0.3	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.001	0.004	0.004
Ni	(mg/L)	0.5	0.018	0.012	0.011	0.016	0.011	0.012	0.011	0.011	0.027	0.015	0.024	0.029
Pb	(mg/L)	0.2	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Zn	(mg/L)	0.5	0.011	0.007	0.005	0.005	0.005	0.005	0.005	0.005	0.021	0.006	0.005	0.007
Ra-226	(pCi/L)	10	0.240	0.540	0.570	0.550	0.240	0.160	0.140	0.190	0.140	0.140	0.380	0.350
pH		>6.0	7.2	7.3	7.4	7.4	7.4	7.3	7.4	7.3	7.3	7.4	7.3	7.0

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	71483	72086	126010	77674	81547	115813	133271	122780	167	80086	60209	32271
TSM	(mg/L)	25	7.500	5.000	7.600	5.500	2.600	2.200	3.000	5.000	-	3.600	2.000	1.800
As	(mg/L)	0.5	0.006	0.055	0.055	0.078	0.024	0.003	0.004	0.002	-	0.003	0.002	0.001
Cu	(mg/L)	0.3	0.003	0.002	0.002	0.004	0.001	0.001	0.002	0.001	-	0.001	0.002	0.002
Ni	(mg/L)	0.5	0.026	0.023	0.023	0.029	0.021	0.030	0.038	0.019	-	0.056	0.073	0.080
Pb	(mg/L)	0.2	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004	-	0.002	0.002	0.002
Zn	(mg/L)	0.5	0.008	0.006	0.008	0.007	0.007	0.007	0.007	0.008	-	0.015	0.012	0.013
Ra-226	(pCi/L)	10	1.900	0.860	1.940	3.780	0.220	0.670	0.380	0.540	-	0.700	0.520	0.280
pH		>6.0	7.4	7.3	7.1	7.3	7.2	7.3	7.3	7.1	-	7.1	7.1	7.3

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Copper Cliff Treatment Plant	**Latitude/Longitude**	46 30 N / 81 00 W
Company Name	INCO LIMITED	**Sector/Product**	Base Metals / Nickel-Copper-Cobalt-Plat.
Operator Name	Inco Limited	**Regulatory Status**	Guidelines
Location	Copper Cliff, Ontario	**Effluent Discharge**	Copper Cliff Creek
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	63200	70280	81350	33220	17120	55220	58320	36470	33100	37570	55620	91220
TSM	(mg/L)	25	3.500	3.800	3.500	3.000	3.200	3.200	2.200	2.300	2.900	2.000	3.100	3.400
As	(mg/L)	0.5	0.004	0.001	0.002	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu	(mg/L)	0.3	0.100	0.059	0.080	0.060	0.070	0.050	0.070	0.030	0.047	0.080	0.060	0.100
Ni	(mg/L)	0.5	0.310	0.290	0.490	0.210	0.240	0.130	0.340	0.370	0.310	0.380	0.370	0.446
Pb	(mg/L)	0.2	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030
Zn	(mg/L)	0.5	0.006	0.006	0.006	0.009	0.009	0.009	0.013	0.009	0.009	0.009	0.009	0.009
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.2	8.3	8.3	8.1	8.2	8.5	8.2	8.2	8.7	8.7	8.6	8.7

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	76430	76640	118100	83190	58020	53510	64740	69140	54540	43150	63100	55740
TSM	(mg/L)	25	3.600	3.000	3.300	2.900	3.200	3.400	3.200	3.600	3.100	3.300	3.300	4.200
As	(mg/L)	0.5	-	0.016	-	-	0.001	-	0.001	0.008	0.004	0.001	0.002	-
Cu	(mg/L)	0.3	0.117	0.137	0.174	0.103	0.083	0.082	0.089	0.048	0.051	0.081	0.091	0.108
Ni	(mg/L)	0.5	0.580	0.310	0.430	0.260	0.120	0.120	0.150	0.160	0.160	0.230	0.250	0.320
Pb	(mg/L)	0.2	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.040	0.030	0.030	0.030
Zn	(mg/L)	0.5	0.017	0.010	0.010	0.011	0.011	0.013	0.029	0.018	0.021	0.038	0.020	0.020
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	8.3	8.6	8.8	8.5	8.1	8.7	9.0	8.6	7.5	8.9	8.2

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Craigmont	**Latitude/Longitude**	50 12 N / 150 55 W
Company Name	CRAIGMONT MINES LTD.	**Sector/Product**	Base Metals / Iron
Operator Name	Craigmont Mines Ltd	**Regulatory Status**	Regulations
Location	Meritt, British Columbia	**Effluent Discharge**	Adit Water
Comments	No TSM data submitted		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	0.040	-	-	-	1.300	-	0.020	-	-	0.020	-	-
Cu	(mg/L)	0.3	0.014	-	-	-	0.061	-	0.012	-	-	0.013	-	-
Ni	(mg/L)	0.5	0.002	-	-	-	0.002	-	0.007	-	-	0.003	-	-
Pb	(mg/L)	0.2	0.005	-	-	-	0.005	-	0.005	-	-	0.005	-	-
Zn	(mg/L)	0.5	0.007	-	-	-	0.007	-	0.016	-	-	0.018	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.9	-	-	-	7.5	-	-	-	-	7.3	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	0.050	-	-	0.020	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	0.393	-	-	0.004	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	0.043	-	-	0.006	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	0.005	-	-	0.005	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	0.137	-	-	0.020	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	7.2	-	-	7.3	-	-	-	-

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Crean Hill	**Latitude/Longitude**	46 25 N / 81 21 W
Company Name	INCO LIMITED	**Sector/Product**	Base Metals / Nickel-Copper-Cobalt
Operator Name	Inco Limited	**Regulatory Status**	Guidelines
Location	Copper Cliff, Ontario	**Effluent Discharge**	
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1493	1780	2777	2230	646	1448	485	599	392	965	13.5	2779
TSM	(mg/L)	25	2.100	3.200	3.000	3.000	2.600	2.100	2.900	3.000	3.000	3.000	3.100	3.100
As	(mg/L)	0.5	0.001	0.001	0.001	0.010	0.010	0.010	0.010	0.010	0.010	-	-	0.010
Cu	(mg/L)	0.3	0.003	0.003	0.005	0.005	0.003	0.003	0.003	0.010	0.017	0.003	-	0.007
Ni	(mg/L)	0.5	0.330	0.330	0.270	0.210	0.190	0.300	0.330	0.230	0.220	1.070	-	0.390
Pb	(mg/L)	0.2	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.036	0.040	-
Zn	(mg/L)	0.5	0.003	0.004	0.010	0.010	0.001	0.020	0.003	0.005	0.009	0.015	-	0.010
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.1	8.0	8.2	8.2	8.0	8.4	7.8	8.0	7.7	8.2	8.5	8.7

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1141	1628	3923	1597	2066	766.7	481.6	354.6	1189	758.1	1503	2578
TSM	(mg/L)	25	3.600	3.000	3.000	3.000	3.200	3.100	3.000	3.000	3.000	3.000	3.100	3.000
As	(mg/L)	0.5	0.000	0.009	0.002	0.000	0.001	-	0.001	0.001	0.001	0.000	0.002	-
Cu	(mg/L)	0.3	0.006	0.003	0.009	0.003	0.006	0.007	0.022	0.003	0.013	0.005	0.005	-
Ni	(mg/L)	0.5	0.319	0.309	0.176	0.207	0.295	0.205	0.230	0.200	0.340	0.337	0.456	-
Pb	(mg/L)	0.2	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	-
Zn	(mg/L)	0.5	0.010	0.010	0.009	0.010	0.012	0.010	0.030	0.011	0.011	0.013	0.010	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.0	8.6	8.9	8.6	8.6	8.8	8.4	8.1	7.9	8.3	8.2	9.1

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Endako	**Latitude/Longitude**	54 02 N / 125 06W
Company Name	THOMPSON CREEK MINING LTD.	**Sector/Product**	Base Metals / Molybdenum
Operator Name	Thompson Creek Mining Company	**Regulatory Status**	Guidelines
Location	Endako, British Columbia	**Effluent Discharge**	#1 Pond 1A Dam Discharge
Comments	Concentration in total values not available. Mine reported dissolved values only.		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1392	-	2545	2395	1730	1500	1500	1730	1590	1590	1981	1590
TSM	(mg/L)	25	25.000	3.000	4.000	3.000	4.000	5.000	-	5.000	-	-	4.000	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.6	7.3	7.3	7.4	7.6	7.6	7.6	7.6	7.7	7.7	7.9	7.6

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3day)	-	2545	1289	1096	1981	1981	1591	2114	1591	1392	1191	1008	1191
TSM	(mg/L)	25	5.000	3.000	3.000	5.000	3.000	4.000	3.000	4.000	5.000	6.000	4.000	4.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	7.7	7.6	7.9	7.9	8.0	7.7	7.8	8.0	7.9	8.0	7.8

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Endako	**Latitude/Longitude**	54 02 N / 125 06W
Company Name	THOMPSON CREEK MINING LTD.	**Sector/Product**	Base Metals / Molybdenum
Operator Name	Thompson Creek Mining Company	**Regulatory Status**	Guidelines
Location	Endako, British Columbia	**Effluent Discharge**	#1 Pond North Dam Discharge
Comments	Concentration in total values not available. Mine reported dissolved values only.		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1191	1289	1500	2295	1289	1191	1008	1289	1191	1191	1730	1096
TSM	(mg/L)	25	3.000	3.000	4.000	-	6.000	6.000	-	7.000	-	-	5.000	9.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.7	7.5	7.7	7.6	7.8	7.8	7.8	7.7	7.9	7.9	8.0	7.8

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1008	1096	1008	1853	1289	842	923	923	842	767	923	767
TSM	(mg/L)	25	4.000	3.000	3.000	3.000	3.000	5.000	3.000	3.000	4.000	3.000	4.000	3.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.9	7.8	7.9	8.0	7.9	8.0	7.9	7.9	8.1	8.0	8.0	7.8

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Endako	**Latitude/Longitude**	54 02 N / 125 06W
Company Name	THOMPSON CREEK MINING LTD.	**Sector/Product**	Base Metals / Molybdenum
Operator Name	Thompson Creek Mining Company	**Regulatory Status**	Guidelines
Location	Endako, British Columbia	**Effluent Discharge**	#2 Pond South Dam West Discharge
Comments	Concentration in total values not available. Mine reported dissolved values only.		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1567	1473	1640	2209	1601	1661	1550	1473	1473	1473	1096	1473
TSM	(mg/L)	25	6.000	10.000	9.000	31.000	9.000	9.000	15.000	17.000	23.000	7.000	10.000	13.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.7	7.6	7.7	7.5	7.6	7.6	7.7	7.5	7.7	7.6	7.9	7.7

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1373	1473	1473	2278	1546	-	1358	1229	1361	1396	1396	1300
TSM	(mg/L)	25	10.000	9.000	8.000	18.000	11.000	10.000	11.000	14.000	13.000	3.000	4.000	6.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.9	7.7	7.8	7.9	7.7	7.9	7.8	7.8	8.0	7.9	8.0	8.0

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Endako	**Latitude/Longitude**	54 02 N / 125 06W
Company Name	THOMPSON CREEK MINING LTD.	**Sector/Product**	Base Metals / Molybdenum
Operator Name	Thompson Creek Mining Company	**Regulatory Status**	Guidelines
Location	Endako, British Columbia	**Effluent Discharge**	New East Dam Discharge
Comments	Concentration in total values not available. Mine reported dissolved values only.		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1289	1008	1500	4345	1289	1096	932	1392	1191	1096	1191	1096
TSM	(mg/L)	25	3.000	3.000	-	3.000	-	-	-	3.000	-	4.000	-	9.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.7	7.5	7.6	7.4	7.6	7.6	7.6	7.4	7.7	7.5	7.9	7.6

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1500	1591	1191	1500	1392	1096	1191	923	1288	1190	1289	1096
TSM	(mg/L)	25	5.000	3.000	3.000	3.000	3.000	7.000	4.000	3.000	5.000	3.000	5.000	3.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.7	7.8	7.7	7.8	7.7	8.0	7.8	7.7	8.1	7.8	8.0	8.0

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Eskay Creek	**Latitude/Longitude**	56 39 N / 30 27 W
Company Name	HOMESTAKE CANADA INC.	**Sector/Product**	Precious Metals / Gold-Silver
Operator Name	Homestake Canada Inc.	**Regulatory Status**	Regulations
Location	83 km North of Stewart, British Columbia	**Effluent Discharge**	D7
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	9.200	8.200	11.200	14.700	15.600	16.700	9.200	7.500	5.200	16.000	10.600	7.000
As	(mg/L)	0.5	0.001	0.002	0.003	0.002	0.080	0.004	0.003	0.002	0.002	0.004	0.002	0.001
Cu	(mg/L)	0.3	0.030	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.008	0.010	0.008	0.010
Ni	(mg/L)	0.5	0.003	0.003	0.004	0.005	0.005	0.050	0.050	0.050	0.040	0.050	0.040	0.050
Pb	(mg/L)	0.2	0.040	0.050	0.050	0.060	0.060	0.060	0.060	0.050	0.040	0.060	0.050	0.050
Zn	(mg/L)	0.5	0.020	0.020	0.030	0.040	0.050	0.030	0.040	0.030	0.030	0.030	0.040	0.060
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.6	7.4	7.4	7.1	7.3	7.5	7.4	7.4	7.5	7.7	7.8	7.6

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	9.000	12.000	10.000	11.000	14.000	6.000	10.000	13.000	7.000	18.000	4.000	10.000
As	(mg/L)	0.5	0.000	0.002	0.003	0.002	0.003	0.006	0.003	0.005	0.004	0.004	0.002	0.004
Cu	(mg/L)	0.3	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Ni	(mg/L)	0.5	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Pb	(mg/L)	0.2	0.050	0.050	0.050	0.060	0.070	0.060	0.080	0.080	0.060	0.070	0.060	0.050
Zn	(mg/L)	0.5	0.060	0.030	0.060	0.060	0.070	0.050	0.070	0.060	0.040	0.060	0.070	0.100
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.7	7.8	7.8	7.6	7.7	7.7	7.5	7.7	7.9	7.7	8.0	8.0

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Eskay Creek	**Latitude/Longitude**	56 39 N / 30 27 W
Company Name	HOMESTAKE CANADA INC.	**Sector/Product**	Precious Metals / Gold-Silver
Operator Name	Homestake Canada Inc.	**Regulatory Status**	Regulations
Location	83 km North of Stewart, British Columbia	**Effluent Discharge**	W20
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	2.500	3.000	3.000	3.500	3.000	6.700	11.300	5.500	4.000	4.500	6.200	3.000
As	(mg/L)	0.5	0.010	0.010	0.010	0.010	0.010	0.005	0.092	0.010	0.008	0.008	0.006	0.004
Cu	(mg/L)	0.3	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001
Ni	(mg/L)	0.5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Pb	(mg/L)	0.2	0.010	0.009	0.007	0.012	0.010	0.037	0.070	0.040	0.026	0.036	0.031	0.018
Zn	(mg/L)	0.5	0.012	0.014	0.020	0.020	0.020	0.030	0.030	0.027	0.020	0.030	0.020	0.020
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.4	7.4	7.3	7.8	7.1	7.1	7.3	7.4	7.7	7.8	7.7	7.7

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	3.000	3.200	5.200	4.000	3.000	5.500	10.000	6.000	9.000	18.000	12.000	3.000
As	(mg/L)	0.5	0.004	0.005	0.006	0.006	0.009	0.009	0.010	0.010	0.010	0.010	0.010	0.010
Cu	(mg/L)	0.3	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001
Ni	(mg/L)	0.5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Pb	(mg/L)	0.2	0.010	0.010	0.010	0.010	0.006	0.030	0.080	0.040	0.050	0.010	0.040	0.010
Zn	(mg/L)	0.5	0.020	0.030	0.030	0.016	0.010	0.020	0.030	0.010	0.020	0.030	0.020	0.006
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.6	7.6	7.8	8.2	8.0	7.5	7.8	7.9	7.6	7.9	7.7	7.7

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Flin Flon Mill	**Latitude/Longitude**	54 46 N / 101 53 W
Company Name	HUDSON BAY MINING AND SMELTING CO., LTD	**Sector/Product**	Base Metals / Copper-Lead-Zinc
Operator Name	Hudson Bay Mining and Smelting Co. Ltd	**Regulatory Status**	Guidelines
Location	Flin Flon, Manitoba	**Effluent Discharge**	Tailings Pond North Weir
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	550700	745000	1108400	1175200	1591900	1568400	880300	1011000	1214500	1372600	1128300	1231400
TSM	(mg/L)	25	5.750	7.750	5.400	4.670	9.330	5.600	7.250	7.600	8.600	8.500	6.400	5.500
As	(mg/L)	0.5	0.017	0.016	0.019	0.011	0.002	0.003	0.001	0.002	0.003	0.002	0.006	0.013
Cu	(mg/L)	0.3	0.023	0.035	0.040	0.050	0.027	0.010	0.010	0.010	0.012	0.010	0.024	0.068
Ni	(mg/L)	0.5	0.010	0.013	0.010	0.013	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Pb	(mg/L)	0.2	0.040	0.040	0.040	0.043	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
Zn	(mg/L)	0.5	0.100	0.173	0.066	0.137	0.290	0.328	0.375	0.364	0.348	0.290	0.048	0.045
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	10.5	9.8	10.0	9.3	10.4	10.0	10.1	9.8	10.0	10.0	10.3	10.0

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	1142800	706800	976100	1018000	713300	653300	765100	691100	674100	563500	666500	526700
TSM	(mg/L)	25	7.000	6.000	6.250	5.330	8.500	7.200	7.000	5.600	5.600	5.250	8.250	12.500
As	(mg/L)	0.5	0.017	0.018	0.029	0.016	0.004	0.004	0.003	0.004	0.003	0.005	0.005	0.013
Cu	(mg/L)	0.3	0.072	0.100	0.055	0.073	0.023	0.014	0.010	0.010	0.014	0.010	0.010	0.015
Ni	(mg/L)	0.5	0.010	0.012	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Pb	(mg/L)	0.2	0.040	0.040	0.040	0.040	0.048	0.040	0.043	0.042	0.040	0.040	0.040	0.040
Zn	(mg/L)	0.5	0.042	0.050	0.018	0.057	0.380	0.440	0.195	0.270	0.300	0.465	0.118	0.038
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	10.5	9.9	10.2	9.6	10.2	10.1	9.9	10.1	9.9	9.6	10.3	10.5

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Francoeur	**Latitude/Longitude**	48 13 N / 79 17 W
Company Name	RICHMONT MINES INC.	**Sector/Product**	Precious Metals / Gold
Operator Name	Richmont Mines Inc.	**Regulatory Status**	Regulations
Location	Rouyn-Noranda, Québec	**Effluent Discharge**	Settling Pond Discharge
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/day)	-	1285	1170	1141	1256	1354	1310	1215	1325	1331	1357	1379	1292
TSM	(mg/L)	25	16.000	13.000	15.000	15.000	11.000	18.000	7.000	9.000	8.000	5.000	8.000	5.000
As	(mg/L)	0.5	-	-	-	0.020	-	-	-	-	-	0.004	-	-
Cu	(mg/L)	0.3	-	-	-	0.030	-	-	-	-	-	0.010	-	-
Ni	(mg/L)	0.5	-	-	-	0.040	-	-	-	-	-	0.040	-	-
Pb	(mg/L)	0.2	-	-	-	0.020	-	-	-	-	-	0.010	-	-
Zn	(mg/L)	0.5	-	-	-	0.010	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.7	7.7	7.7	7.9	7.7	8.0	7.7	7.2	7.7	7.4	7.8	7.5

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/day)	-	1274	1210	1256	1415	1411	1331	1320	1314	1292	1292	1322	1339
TSM	(mg/L)	25	9.000	6.000	5.000	12.000	9.000	6.000	7.000	5.000	8.000	8.000	8.000	8.000
As	(mg/L)	0.5	-	-	-	0.002	-	-	-	-	-	-	0.020	-
Cu	(mg/L)	0.3	-	-	-	0.100	-	-	-	-	-	-	0.010	-
Ni	(mg/L)	0.5	-	-	-	0.040	-	-	-	-	-	-	0.050	-
Pb	(mg/L)	0.2	-	-	-	0.010	-	-	-	-	-	-	0.010	-
Zn	(mg/L)	0.5	-	-	-	0.010	-	-	-	-	-	-	0.010	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	7.6	7.6	7.8	8.0	8.1	7.7	7.9	7.6	7.9	7.7	7.5

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Garson	**Latitude/Longitude**	46 25 N / 81 21 W
Company Name	INCO LIMITED	**Sector/Product**	Base Metals /Nickel-Copper-Cobalt-Plat.
Operator Name	Inco Limited	**Regulatory Status**	Guidelines
Location	Copper Cliff, Ontario	**Effluent Discharge**	
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1778	2176	2002	2725	1840	2302	2249	2033	2418	2191	2418	2229
TSM	(mg/L)	25	6.000	3.200	5.200	3.900	4.300	3.900	3.600	3.900	3.000	3.000	3.000	3.000
As	(mg/L)	0.5	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.001	-	0.001	0.001
Cu	(mg/L)	0.3	0.003	0.004	0.003	0.003	0.015	0.140	0.060	0.099	-	0.002	0.001	0.006
Ni	(mg/L)	0.5	0.250	0.510	0.118	0.125	0.177	0.116	0.079	0.119	0.062	0.130	0.217	0.110
Pb	(mg/L)	0.2	0.003	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.030	0.040	0.030	0.030
Zn	(mg/L)	0.5	0.004	0.004	0.004	0.003	0.006	0.070	0.030	0.070	0.030	0.010	0.019	0.010
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.0	7.3	7.6	9.1	8.6	8.6	8.5	7.6	8.3	7.8	7.8	7.4

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1597	1982	3176	2420	1841	1792	1681	1921	1492	1563	1846	1550
TSM	(mg/L)	25	3.000	3.000	3.000	3.000	3.600	3.000	3.000	3.200	3.000	3.000	3.100	3.100
As	(mg/L)	0.5	0.001	0.002	0.003	0.001	0.001	-	0.001	0.001	0.001	0.001	0.002	0.002
Cu	(mg/L)	0.3	0.005	0.003	0.013	0.003	0.004	0.019	0.012	0.003	0.004	0.003	0.003	0.006
Ni	(mg/L)	0.5	0.080	0.080	0.356	0.040	0.050	0.070	0.040	0.040	0.070	0.110	0.157	0.167
Pb	(mg/L)	0.2	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030
Zn	(mg/L)	0.5	0.010	0.010	0.012	0.010	0.027	0.010	0.019	0.010	0.010	0.010	0.010	0.010
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.4	8.1	8.8	9.0	9.3	8.4	8.2	8.7	8.4	8.2	8.6	9.0

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Gaspé Copper	**Latitude/Longitude**	48 58 N / 65 31 W
Company Name	NORANDA MINING AND EXPLORATION INC.	**Sector/Product**	Base Metals / Copper
Operator Name	Noranda Mining and Exploration Inc.	**Regulatory Status**	Guidelines
Location	Murdochville, Québec	**Effluent Discharge**	Combined Effluent
Comments	Mine closed in 2000		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	28800	28800	36000	36000	288000	156000	26400	36000	79200	214608	138480	138480
TSM	(mg/L)	25	2.200	1.000	1.500	1.500	13.700	1.600	1.400	2.000	1.300	2.100	1.100	2.100
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.003	0.003	-
Cu	(mg/L)	0.3	0.030	0.020	0.040	0.040	0.090	0.040	0.020	0.020	0.020	0.050	0.040	0.100
Ni	(mg/L)	0.5	-	0.020	0.020	0.040	0.010	0.020	0.010	0.020	-	0.010	0.010	0.020
Pb	(mg/L)	0.2	-	0.040	0.020	0.050	0.030	0.040	0.030	0.030	-	0.030	0.010	0.030
Zn	(mg/L)	0.5	-	0.020	0.030	0.030	0.020	0.010	0.010	0.010	-	0.010	0.010	0.010
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	7.3	7.6	7.7	7.8	8.2	8.1	8.1	8.0	8.0	8.0	8.1

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Gonzague Langlois	**Latitude/Longitude**	49 15 N / 76 45 W
Company Name	CAMBIOR INC.	**Sector/Product**	Base Metals / Zinc-Copper
Operator Name	Cambior Inc.	**Regulatory Status**	Regulations
Location	NE of Lebel-sur-Quévillon, Québec	**Effluent Discharge**	Ditch 3A
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	28	25	55	24	23	14	76	23	19
TSM	(mg/L)	25	-	-	-	7.600	3.600	9.100	2.000	1.800	2.100	1.900	6.300	2.400
As	(mg/L)	0.5	-	-	-	0.002	0.002	0.002	0.002	0.002	0.005	0.002	0.004	0.003
Cu	(mg/L)	0.3	-	-	-	0.010	0.010	0.010	0.010	0.010	0.010	0.030	0.010	0.010
Ni	(mg/L)	0.5	-	-	-	0.040	0.120	0.040	0.040	0.040	0.040	0.070	0.040	0.040
Pb	(mg/L)	0.2	-	-	-	0.010	0.010	0.010	0.010	0.010	0.005	0.010	0.010	0.010
Zn	(mg/L)	0.5	-	-	-	0.010	0.010	0.010	0.020	0.010	0.020	0.010	0.010	0.010
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	7.1	7.3	7.3	7.0	6.9	6.7	7.0	7.3	7.0

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	576000	-	20	14	17	24	71	86	117	151	173
TSM	(mg/L)	25	-	-	2.000	5.700	3.900	1.500	1.900	4.400	4.500	11.500	3.200	3.600
As	(mg/L)	0.5	-	-	-	-	-	-	0.010	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	0.020	0.010	0.010	0.010	0.010	-	-	-	0.010	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	0.400	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	0.010	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	0.010	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	7.1	7.1	6.9	7.4	7.3	7.6	7.4	7.2	7.3	7.2	6.9

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Gonzague Langlois	**Latitude/Longitude**	49 15 N / 76 45 W
Company Name	CAMBIOR INC.	**Sector/Product**	Base Metals / Zinc-Copper
Operator Name	Cambior Inc.	**Regulatory Status**	Regulations
Location	NE of Lebel-sur-Quévillon, Québec	**Effluent Discharge**	Ditch 3C
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	251	278	291	332	316	-	336	273
TSM	(mg/L)	25	2.800	3.000	2.700	4.100	2.300	1.800	2.600	2.000	2.200	2.100	0.500	1.700
As	(mg/L)	0.5	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Cu	(mg/L)	0.3	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.010	0.010	0.010
Ni	(mg/L)	0.5	0.040	0.040	0.040	0.040	0.230	0.040	0.040	0.040	0.060	0.040	0.040	0.040
Pb	(mg/L)	0.2	0.010	0.010	0.010	0.070	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.060
Zn	(mg/L)	0.5	0.020	0.001	0.020	0.017	0.015	0.022	0.015	0.010	0.030	0.010	0.011	0.010
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	7.4	7.3	7.3	7.3	7.3	6.9	6.8	7.1	7.3	7.2	7.2

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	259	246	259200	225	235	122	138	278	343	290	234	149
TSM	(mg/L)	25	2.600	1.900	1.400	3.900	3.800	1.600	2.000	4.800	3.500	2.300	2.200	29.200
As	(mg/L)	0.5	0.002	0.002	-	-	-	-	0.010	-	-	-	-	-
Cu	(mg/L)	0.3	0.010	0.010	-	-	-	-	0.010	-	-	-	-	-
Ni	(mg/L)	0.5	0.070	0.040	0.040	0.040	0.230	0.040	0.040	0.040	0.060	0.040	0.040	0.040
Pb	(mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.010	-	-	-	-	-
Zn	(mg/L)	0.5	0.010	0.010	-	-	-	-	0.010		-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.1	7.3	7.1	7.2	7.4	7.9	7.7	7.7	7.5	7.5	7.3	7.7

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Gonzague Langlois	**Latitude/Longitude**	49 15 N / 76 45 W
Company Name	CAMBIOR INC.	**Sector/Product**	Base Metals / Zinc-Copper
Operator Name	Cambior Inc.	**Regulatory Status**	Regulations
Location	NE of Lebel-sur-Quévillon, Québec	**Effluent Discharge**	Ditch 4
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	104	117	101	99	102	84	-
TSM	(mg/L)	25	3.300	2.000	1.800	5.100	4.900	6.300	3.200	2.200	2.300	1.600	2.200	1.900
As	(mg/L)	0.5	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003
Cu	(mg/L)	0.3	0.010	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.020
Ni	(mg/L)	0.5	0.040	0.040	0.040	0.040	0.210	0.040	0.040	0.040	0.060	0.040	0.040	0.080
Pb	(mg/L)	0.2	0.010	0.010	0.020	0.030	0.010	0.010	0.010	0.010	0.010	0.010	0.002	0.030
Zn	(mg/L)	0.5	0.010	0.010	0.020	0.030	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.6	7.4	7.4	7.3	7.7	7.7	7.7	7.2	7.0	7.3	7.6	7.3

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	72	-	-	-	55	101	88	56	97	752	86	86
TSM	(mg/L)	25	2.400	5.800	-	7.400	5.200	1.800	2.600	3.900	2.900	3.500	2.000	5.500
As	(mg/L)	0.5	0.002	0.002	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.010	0.020	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	0.040	0.050	0.040	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.010	0.010	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	0.010	0.010	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.4	7.3	7.2	7.5	7.7	7.8	7.9	8.0	6.3	7.8	7.7	7.5

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Gonzague Langlois	**Latitude/Longitude**	49 15 N / 76 45 W
Company Name	CAMBIOR INC.	**Sector/Product**	Base Metals / Zinc-Copper
Operator Name	Cambior Inc.	**Regulatory Status**	Regulations
Location	NE of Lebel-sur-Quévillon, Québec	**Effluent Discharge**	Tailings Pond
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	2376	2388	5807	5558	3715	5839	5815	5825	5868	5875	5832
TSM	(mg/L)	25	3.400	2.000	2.600	1.900	3.100	6.700	5.700	3.500	3.800	7.300	0.600	0.500
As	(mg/L)	0.5	0.002	0.004	0.003	0.008	0.002	0.002	0.003	0.002	0.005	0.010	0.004	0.003
Cu	(mg/L)	0.3	0.010	0.030	0.020	0.030	0.020	0.030	0.020	0.010	0.020	0.030	0.020	0.040
Ni	(mg/L)	0.5	0.040	0.080	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.060	0.040
Pb	(mg/L)	0.2	0.010	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.020	0.010	0.010
Zn	(mg/L)	0.5	0.110	0.080	0.040	0.040	0.080	0.140	0.130	0.090	0.110	0.210	0.200	0.260
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.0	6.8	7.0	6.8	6.8	7.3	7.6	6.9	6.7	6.9	7.1	7.2

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	2563	2736	370440	5868	6362	6588	6814	5285	4385	4627	4523	5915
TSM	(mg/L)	25	3.900	2.600	2.300	4.400	5.000	1.800	2.000	5.300	4.000	4.200	-	5.800
As	(mg/L)	0.5	0.003	0.004	-	-	-	-	0.010	-	-	-	-	-
Cu	(mg/L)	0.3	0.030	0.020	0.030	0.020	0.030	0.020	0.020	0.020	0.020	0.030	0.030	0.020
Ni	(mg/L)	0.5	0.070	0.040	-	-	-	-	0.040	-	-	-	-	-
Pb	(mg/L)	0.2	0.010	0.010	-	0.010	0.010	0.010	0.010	-	-	-	-	-
Zn	(mg/L)	0.5	0.280	0.210	0.120	0.060	0.170	0.260	0.240	0.210	0.210	0.330	0.400	0.480
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.9	6.9	7.0	6.9	7.2	7.4	7.4	7.5	6.8	6.9	6.8	7.2

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Highland Valley Copper	**Latitude/Longitude**	48 31 N / 79 45 W
Company Name	COMINCO LTD.	**Sector/Product**	Base Metals / Copper-Molybdenum
Operator Name	Highland Valley Copper	**Regulatory Status**	Regulations
Location	Logan Lake, British Columbia	**Effluent Discharge**	
Comments	No surface effluent in 1999 and 2000		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Horne Division	**Latitude/Longitude**	48 15 N / 79 00 W
Company Name	NORANDA INC.	**Sector/Product**	Base Metals / Copper
Operator Name	Noranda Metallurgy Inc.	**Regulatory Status**	Guidelines
Location	Rouyn-Noranda, Québec	**Effluent Discharge**	Tailings Pond #12
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	35326	40716	54518	90828	31017	50112	57708	45446	30276	102168	64368	48240
TSM	(mg/L)	25	2.800	2.800	3.400	6.000	3.000	4.800	3.000	2.600	4.000	4.000	3.800	3.300
As	(mg/L)	0.5	0.050	0.050	0.050	0.040	0.050	0.050	0.040	0.040	0.050	0.050	0.040	0.040
Cu	(mg/L)	0.3	0.170	0.100	0.090	0.200	0.060	0.070	0.090	0.100	0.080	0.240	0.100	0.050
Ni	(mg/L)	0.5	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	1.300
Pb	(mg/L)	0.2	0.050	0.050	0.050	0.060	0.050	0.050	0.050	0.050	0.050	0.050	0.040	0.040
Zn	(mg/L)	0.5	0.390	0.200	0.150	0.570	0.180	0.070	0.100	0.150	0.100	0.590	0.240	0.180
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.8	9.1	8.4	8.0	8.0	8.0	8.1	7.9	7.8	7.9	8.0	8.5

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	62813	45432	90864	91764	84009	66204	78048	98784	56784	67392	67176	60624
TSM	(mg/L)	25	3.600	3.000	6.300	3.500	3.000	3.000	3.300	4.000	3.500	3.400	4.300	3.300
As	(mg/L)	0.5	0.050	0.050	0.040	0.050	0.040	0.050	0.040	0.045	0.040	0.042	0.050	0.050
Cu	(mg/L)	0.3	0.060	0.040	0.070	0.060	0.040	0.030	0.040	0.040	0.040	0.040	0.050	0.040
Ni	(mg/L)	0.5	0.050	0.050	0.050	0.050	0.040	0.040	0.050	0.050	0.050	0.050	0.050	0.050
Pb	(mg/L)	0.2	0.050	0.050	0.040	0.050	0.040	0.040	0.040	0.040	0.040	0.040	0.050	0.050
Zn	(mg/L)	0.5	0.150	0.090	0.120	0.990	0.930	0.150	0.070	0.050	0.090	0.070	0.160	0.070
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.9	9.4	9.4	8.6	8.2	8.1	8.3	8.8	8.0	8.0	8.1	9.3

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Horne Division	**Latitude/Longitude**	48 15 N / 79 00 W
Company Name	NORANDA MINING AND EXPLORATION INC.	**Sector/Product**	Base Metals / Copper
Operator Name	Noranda Metallurgy Inc.	**Regulatory Status**	Guidelines
Location	Rouyn-Noranda, Québec	**Effluent Discharge**	Tailings Pond Effluent PI-06
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	20.300	8.500	4.800	12.000	6.000	3.000	3.000	7.600	9.800	4.300	3.600	3.500
As	(mg/L)	0.5	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.040
Cu	(mg/L)	0.3	0.040	0.030	0.030	0.050	0.020	0.020	0.020	0.020	0.020	0.090	0.040	0.050
Ni	(mg/L)	0.5	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.040
Pb	(mg/L)	0.2	0.060	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.040
Zn	(mg/L)	0.5	0.210	0.110	0.040	0.130	0.050	0.050	0.050	0.040	0.030	0.470	0.430	0.120
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.8	6.9	6.9	8.2	7.3	9.1	7.5	7.5	7.3	7.4	7.1	7.0

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	5.400	4.500	4.300	3.800	6.000	5.000	3.200	4.500	4.300	3.800	5.300	8.500
As	(mg/L)	0.5	0.050	0.050	0.040	0.050	0.040	0.040	0.040	0.040	0.040	0.040	0.050	0.050
Cu	(mg/L)	0.3	0.020	0.020	0.030	0.030	0.020	0.020	0.010	0.010	0.010	0.020	0.050	0.040
Ni	(mg/L)	0.5	0.050	0.050	0.050	0.050	0.040	0.040	0.050	0.050	0.050	0.050	0.050	0.050
Pb	(mg/L)	0.2	0.050	0.050	0.040	0.050	0.040	0.040	0.040	0.040	0.040	0.040	0.050	0.050
Zn	(mg/L)	0.5	0.030	0.030	0.170	0.100	0.090	0.040	0.040	0.020	0.060	0.210	0.360	0.140
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	7.6	7.5	8.3	7.4	7.6	7.5	7.9	7.8	7.5	7.6	7.5

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Hoyle Pond	**Latitude/Longitude**	
Company Name	KINROSS GOLD CORPORATION	**Sector/Product**	Precious Metals / Gold
Operator Name	Kinross Gold Corporation	**Regulatory Status**	Regulations
Location	Schumacher, Ontario	**Effluent Discharge**	
Comments	No surface effluent		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Huckleberry	**Latitude/Longitude**	53 41 N / 127 10 W
Company Name	PRINCETON MINING CORPORATION	**Sector/Product**	Base Metals / Copper-Molyb.-Gold-Silver
Operator Name	Huckleberry Mines Ltd.	**Regulatory Status**	Regulations
Location	86 km SW of Houston, British Columbia	**Effluent Discharge**	East Zone Ditch
Comments	1999 & 2000: No data for As, Cu, Ni, Pb, Zn & flow rates		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	3.000	4.000	3.000	189.000	20.000	12.000	3.000	5.000	6.000	3.000	5.000	3.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.3	6.9	7.0	7.4	6.5	6.5	6.5	7.2	7.7	7.8	7.8	7.7

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	3.000	3.000	4.000	3.000	8.000	3.000	9.000	4.000	4.000	5.000	3.000	16.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.7	7.7	7.7	7.4	7.7	7.5	7.8	7.9	7.9	8.0	7.8	6.4

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Huckleberry	**Latitude/Longitude**	53 41 N / 127 10 W
Company Name	PRINCETON MINING CORPORATION	**Sector/Product**	Base Metals / Copper-Molyb.-Gold-Silver
Operator Name	Huckleberry Mines Ltd.	**Regulatory Status**	Regulations
Location	86 km SW of Houston, British Columbia	**Effluent Discharge**	SC-02
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	237	238	248	520	386	103	98	103	98	101	102	92
TSM	(mg/L)	25	2.000	2.000	1.000	12.000	8.000	5.000	5.000	5.000	6.000	5.000	5.000	5.000
As	(mg/L)	0.5	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Cu	(mg/L)	0.3	0.002	0.002	0.002	0.004	0.004	0.003	0.003	0.003	0.002	0.004	0.004	0.003
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.002	0.005	0.010	0.001	0.001	0.001	0.001	0.001	0.010	0.001	0.002	0.001
Zn	(mg/L)	0.5	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.4	7.1	7.0	7.6	6.6	7.1	6.9	7.2	7.4	7.3	7.5	7.5

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	89	91	207	314	147	84	89	97	90	97	88	76
TSM	(mg/L)	25	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	3.000	5.000	6.000
As	(mg/L)	0.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu	(mg/L)	0.3	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Zn	(mg/L)	0.5	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	7.6	7.3	7.3	7.5	7.5	7.4	7.6	7.7	7.8	7.7	7.4

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Huckleberry	**Latitude/Longitude**	53 41 N / 127 10 W
Company Name	PRINCETON MINING CORPORATION	**Sector/Product**	Base Metals / Copper-Molyb.-Gold-Silver
Operator Name	Huckleberry Mines Ltd.	**Regulatory Status**	Regulations
Location	86 km SW of Houston, British Columbia	**Effluent Discharge**	SC-03
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	62	62	359	1447	997	260	275	846	20	26	144	477
TSM	(mg/L)	25	4.000	2.000	2.000	48.000	14.000	6.000	5.000	5.000	5.000	5.000	5.000	5.000
As	(mg/L)	0.5	0.027	0.002	0.002	0.004	0.003	0.009	0.003	0.001	0.007	0.014	0.012	0.002
Cu	(mg/L)	0.3	0.003	0.002	0.100	0.060	0.040	0.020	0.020	0.040	0.012	0.003	0.005	0.030
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.001	0.005	0.010	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001
Zn	(mg/L)	0.5	0.005	0.005	0.011	0.006	0.005	0.007	0.005	0.005	0.005	0.005	0.005	0.005
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.6	7.3	7.2	7.4	6.8	7.1	7.3	7.1	7.6	7.4	7.9	7.7

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	456	452	370	891	818	956	668	288	350	642	557	494
TSM	(mg/L)	25	5.000	5.000	5.000	5.000	9.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
As	(mg/L)	0.5	0.001	0.008	0.009	0.002	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu	(mg/L)	0.3	0.040	0.040	0.060	0.040	0.050	0.040	0.030	0.040	0.020	0.040	0.050	0.050
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.001	0.001	0.010	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Zn	(mg/L)	0.5	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.7	7.7	7.6	7.5	7.5	7.8	7.7	7.6	7.8	8.0	7.8	7.6

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Huckleberry	**Latitude/Longitude**	53 41 N / 127 10 W
Company Name	PRINCETON MINING CORPORATION	**Sector/Product**	Base Metals / Copper-Molyb.-Gold-Silver
Operator Name	Huckleberry Mines Ltd.	**Regulatory Status**	Regulations
Location	86 km SW of Houston, British Columbia	**Effluent Discharge**	SC-04
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	2769	2769	4161	9098	13526	13283	4729	2969	5725	1855	2377	1191
TSM	(mg/L)	25	4.000	2.000	4.000	11.000	10.000	13.000	5.000	5.000	5.000	5.000	5.000	5.000
As	(mg/L)	0.5	0.001	0.002	0.002	0.002	0.002	0.002	0.003	0.005	0.003	0.002	0.001	0.001
Cu	(mg/L)	0.3	0.008	0.010	0.013	0.030	0.009	0.013	0.012	0.007	0.010	0.008	0.007	0.009
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.002	0.010	0.010	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.010
Zn	(mg/L)	0.5	0.007	0.006	0.009	0.013	0.005	0.007	0.005	0.005	0.007	0.005	0.006	0.006
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	7.6	7.6	7.4	7.4	7.3	7.6	7.1	7.7	7.8	7.8	7.8

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	662	523	1091	6576	5172	2150	778	749	644	2559	1465	1009
TSM	(mg/L)	25	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000
As	(mg/L)	0.5	0.001	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.000	0.001	0.001
Cu	(mg/L)	0.3	0.005	0.004	0.004	0.020	0.010	0.006	0.005	0.006	0.006	0.010	0.020	0.008
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001
Zn	(mg/L)	0.5	0.005	0.005	0.005	0.011	0.005	0.005	0.005	0.005	0.005	0.005	0.009	0.005
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	7.8	7.8	7.6	7.9	7.9	7.8	7.7	7.9	8.0	7.9	7.7

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Huckleberry	**Latitude/Longitude**	53 41 N / 127 10 W
Company Name	PRINCETON MINING CORPORATION	**Sector/Product**	Base Metals / Copper-Molyb.-Gold-Silver
Operator Name	Huckleberry Mines Ltd.	**Regulatory Status**	Regulations
Location	86 km SW of Houston, British Columbia	**Effluent Discharge**	SC-05
Comments	1999: discharged in May, June and July	2000: discharged in April, May, June, October, November and December	

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	537	180	96	0	0	0	0	0
TSM	(mg/L)	25	-	-	-	-	5.000	5.000	5.000	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	0.001	0.002	0.003	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	0.006	0.006	0.007	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	0.001	0.001	0.001	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	0.005	0.005	0.005	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	6.8	7.1	7.1	-	-	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	92	66	2	0	0	0	33	31	11
TSM	(mg/L)	25	-	-	-	5.000	5.000	5.000	-	-	-	-	5.000	5.000
As	(mg/L)	0.5	-	-	-	0.001	0.001	0.001	-	-	-	-	0.001	0.003
Cu	(mg/L)	0.3	-	-	-	0.005	0.006	0.004	-	-	-	-	0.005	0.030
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	0.001	0.001	0.001	-	-	-	-	0.001	0.001
Zn	(mg/L)	0.5	-	-	-	0.005	0.005	0.005	-	-	-	-	0.005	0.009
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	7.5	7.3	7.2	-	-	-	-	7.7	7.6

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Joe Mann	**Latitude/Longitude**	49 29 N / 74 26 W
Company Name	CAMPBELL RESOURCES INC.	**Sector/Product**	Precious Metals / Gold-Copper
Operator Name	Meston Resources Inc.	**Regulatory Status**	Regulations
Location	Chibougamau, Québec	**Effluent Discharge**	Final Effluent
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	0	-	-	-	-	-	-	0
TSM	(mg/L)	25	-	-	-	-	-	3.000	3.000	3.000	3.000	3.000	3.000	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	0.020	0.010	0.020	0.010	0.010	0.020	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	0.040	0.100	0.040	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	7.9	8.0	7.9	7.7	7.1	7.0	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	3.000	3.000	1.800	3.900	1.600	2.400	2.800	2.600	1.300	0.200
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.010	0.010	0.030	0.080	0.030	0.020	0.100	0.018	0.030	0.040	0.010	0.020
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.040	0.040	0.040	0.020	0.010	0.010	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.5	6.7	-	-	8.1	7.2	7.6	7.4	7.1	7.6	7.5	7.8

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Joubi	**Latitude/Longitude**	48 05 N / 77 52 W
Company Name	WESTERN QUEBEC MINES INC.	**Sector/Product**	Precious Metals / Gold
Operator Name	Western Quebec Mines Inc.	**Regulatory Status**	Regulations
Location	Val d'Or, Québec	**Effluent Discharge**	Mine Water
Comments	Mine closed in 2000		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	449	490	490	452	490	608	529	504	504	0	0	0
TSM	(mg/L)	25	7.000	3.000	2.000	5.000	5.000	5.000	4.000	8.000	3.000	-	-	-
As	(mg/L)	0.5	0.010	-	-	-	-	-	0.010	-	-	-	-	-
Cu	(mg/L)	0.3	0.010	-	-	-	-	-	0.020	-	-	-	-	-
Ni	(mg/L)	0.5	0.010	-	-	-	-	-	0.010	-	-	-	-	-
Pb	(mg/L)	0.2	0.020	-	-	-	-	-	0.010	-	-	-	-	-
Zn	(mg/L)	0.5	0.010	-	-	-	-	-	0.010	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	8.0	8.0	7.7	7.8	7.8	7.4	7.5	-	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Katinniq	**Latitude/Longitude**	61 39 N / 73 41 W
Company Name	SOCIÉTÉ MINIÈRE RAGLAN DU QUÉBEC	**Sector/Product**	Base Metals / Nickel-Copper-Cobalt
Operator Name	Société Minière Raglan du Québec	**Regulatory Status**	Regulations
Location	Tip of Ungava Peninsula, Québec	**Effluent Discharge**	DIR-HS
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	0	0	46230	0	78591	0	0	0
TSM	(mg/L)	25	-	-	-	-	-	-	0.800	-	1.700	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	0.001	-	0.002	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	0.020	-	0.006	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	0.400	-	0.500	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	0.001	-	0.010	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	0.020	-	0.020	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	8.5	-	6.7	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	0	0	0	7074	157830	28407	0	0
TSM	(mg/L)	25	-	-	-	-	-	-	-	3.000	3.600	3.000	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	0.005	0.005	0.007	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	0.010	0.020	0.020	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	0.300	0.370	0.210	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	0.006	0.005	0.010	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	0.005	0.007	0.017	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	8.3	8.2	7.0	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Katinniq	**Latitude/Longitude**	61 39 N / 73 41 W
Company Name	SOCIÉTÉ MINIÈRE RAGLAN DU QUÉBEC	**Sector/Product**	Base Metals / Nickel-Copper-Cobalt
Operator Name	Société Minière Raglan du Québec	**Regulatory Status**	Regulations
Location	Tip of Ungava Peninsula, Québec	**Effluent Discharge**	DIR-UT
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/day)	-	37876	84794	106321	63568	114169	95666	95666	80567	62934	25368	41802	67870
TSM	(mg/L)	25	17.700	16.300	16.400	15.700	16.200	14.700	8.400	12.300	20.400	18.300	20.900	24.270
As	(mg/L)	0.5	-	-	0.010	-	0.010	0.010	0.010	0.010	0.010	-	0.010	0.010
Cu	(mg/L)	0.3	0.030	0.040	0.020	0.030	0.030	0.040	0.020	0.010	0.020	0.040	0.110	0.020
Ni	(mg/L)	0.5	0.150	0.130	0.140	0.140	0.180	0.170	0.210	0.220	0.310	0.240	0.160	0.140
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	0.010	-	-	0.010
Zn	(mg/L)	0.5	0.010	0.010	0.010	0.020	0.060	0.020	0.030	0.020	0.020	0.010	0.010	0.070
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.4	9.0	9.0	9.1	9.2	9.4	9.5	9.3	9.3	9.2	9.2	9.1

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/day)	-	84623	27950	43445	32191	39000	73784	97439	4603	98082	60962	66772	36374
TSM	(mg/L)	25	15.800	15.700	27.800	12.200	15.300	11.300	5.500	8.000	13.800	22.300	21.800	20.200
As	(mg/L)	0.5	0.005	0.023	0.010	0.010	0.042	0.050	0.050	0.050	0.010	0.050	0.050	0.050
Cu	(mg/L)	0.3	0.010	0.040	0.040	0.040	0.030	0.030	0.020	0.020	0.020	0.060	0.020	0.020
Ni	(mg/L)	0.5	0.150	0.170	0.220	0.280	0.100	0.120	0.240	0.140	0.180	0.120	0.100	0.050
Pb	(mg/L)	0.2	0.010	0.010	0.010	0.003	0.038	0.050	0.050	0.050	0.050	0.050	0.050	0.050
Zn	(mg/L)	0.5	0.040	0.010	0.020	0.030	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.4	9.3	9.2	9.2	9.2	9.3	9.2	9.2	9.4	9.1	9.2	9.3

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Key Lake	**Latitude/Longitude**	57 11 N / 105 34 W
Company Name	CAMECO CORPORATION	**Sector/Product**	Uranium / Uranium
Operator Name	Cameco Corporation	**Regulatory Status**	Regulations
Location	Saskatoon, Saskatchewan	**Effluent Discharge**	Treated Mill Effluent
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	190000	165000	184000	172000	195500	179000	170000	213500	125000	185000	205000	235000
TSM	(mg/L)	25	1.900	1.900	1.000	1.700	1.900	1.900	1.300	0.720	1.200	0.600	1.200	1.400
As	(mg/L)	0.5	0.086	0.038	0.061	0.060	0.039	0.045	0.067	0.036	0.042	0.189	0.077	0.055
Cu	(mg/L)	0.3	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.080	0.005	0.014	0.005
Ni	(mg/L)	0.5	0.080	0.060	0.070	0.050	0.060	0.050	0.090	0.140	0.090	0.090	0.100	0.110
Pb	(mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.058	0.010	0.010	0.010	0.010
Zn	(mg/L)	0.5	0.010	0.005	0.005	0.005	0.005	0.019	0.011	0.006	0.008	0.005	0.008	0.005
Ra-226	(pCi/L)	10	5.400	2.700	1.080	0.540	2.160	2.430	4.320	4.320	2.700	2.430	1.620	1.620
pH		>6.0	6.4	6.4	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.4	6.2	6.2

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	230000	225000	194000	245000	240000	145000	190000	162500	165000	210000	125000	70000
TSM	(mg/L)	25	1.000	1.500	1.900	1.000	1.400	1.200	1.400	3.100	1.400	1.600	3.000	2.400
As	(mg/L)	0.5	0.023	0.024	0.012	0.009	0.009	0.011	0.004	0.002	0.003	0.002	0.003	0.001
Cu	(mg/L)	0.3	0.033	0.005	0.005	0.006	0.005	0.012	0.012	0.017	0.005	0.005	0.013	0.015
Ni	(mg/L)	0.5	0.037	0.090	0.050	0.050	0.050	0.040	0.040	0.040	0.030	0.040	0.030	0.030
Pb	(mg/L)	0.2	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Zn	(mg/L)	0.5	0.007	0.007	0.008	0.005	0.005	0.006	0.030	0.010	0.005	0.007	0.005	0.033
Ra-226	(pCi/L)	10	1.620	3.510	4.050	2.160	2.970	2.160	4.860	4.590	3.240	4.590	4.590	0.190
pH		>6.0	6.3	6.4	6.3	6.2	6.3	6.1	6.2	6.2	6.2	6.2	6.2	6.2

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Keystone	**Latitude/Longitude**	56 55 N / 100 27 W
Company Name	BLACK HAWK MINING INC.	**Sector/Product**	Precious Metals / Gold
Operator Name	Black Hawk Mining Inc.	**Regulatory Status**	Regulations
Location	Near Lynn Lake, Manitoba	**Effluent Discharge**	Sediment. #1
Comments	2000: No surface effluent from January to April 2000. Mine closed in May 2000.		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	201141	137365	171706	132459	98194	67412	110224	149614	85680	112823	38579	0
TSM	(mg/L)	25	1.600	1.750	2.000	3.250	3.000	1.600	1.250	2.750	3.400	3.500	3.250	-
As	(mg/L)	0.5	0.001	0.001	0.001	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.001	-
Cu	(mg/L)	0.3	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-
Ni	(mg/L)	0.5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-
Zn	(mg/L)	0.5	0.006	0.005	0.005	0.005	0.014	0.005	0.039	0.014	0.005	0.005	0.005	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.0	8.0	8.1	7.8	7.5	7.5	8.1	7.9	7.9	7.9	7.8	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	0	0	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Keystone	**Latitude/Longitude**	56 55 N / 100 27 W
Company Name	BLACK HAWK MINING INC.	**Sector/Product**	Precious Metals / Gold
Operator Name	Black Hawk Mining Inc.	**Regulatory Status**	Regulations
Location	Near Lynn Lake, Manitoba	**Effluent Discharge**	Sediment. #2
Comments	2000: No surface effluent from January to April 2000. Mine closed in May 2000.		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	0	0	2180	2157	850	0	1000	0	0	0
TSM	(mg/L)	25	-	-	-	-	2.000	1.500	2.000	-	2.000	-	-	-
As	(mg/L)	0.5	-	-	-	-	0.006	0.003	0.001	-	0.001	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	0.001	0.001	0.002	-	0.002	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	0.001	0.001	0.002	-	0.001	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	0.001	0.001	0.001	-	0.001	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	0.005	0.005	0.008	-	0.007	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	7.5	7.2	7.8	-	7.5	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	0	0	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Kidd Creek	**Latitude/Longitude**	48 41 N / 81 22 W
Company Name	FALCONBRIDGE LTD.	**Sector/Product**	Base Metals / Zinc-Copper-Silver-Lead
Operator Name	Falconbridge Ltd.	**Regulatory Status**	Guidelines
Location	Timmins, Ontario	**Effluent Discharge**	Tailings Pond Effluent
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	6348	6467	12800	46160	23840	30110	25730	15170	10550	38860	25630	11890
TSM	(mg/L)	25	0.010	0.010	17.000	4.000	3.000	4.000	11.000	1.500	1.000	1.000	1.000	2.000
As	(mg/L)	0.5	0.002	0.002	0.002	0.002	0.002	0.001	0.003	0.001	-	0.001	0.002	0.001
Cu	(mg/L)	0.3	0.033	0.023	0.024	0.070	0.060	0.060	0.026	0.019	0.026	0.050	0.050	0.050
Ni	(mg/L)	0.5	0.006	0.002	0.004	0.004	0.001	0.002	0.010	0.001	0.003	0.001	0.002	0.002
Pb	(mg/L)	0.2	0.005	0.009	0.002	0.002	0.002	0.002	0.008	0.005	0.003	0.002	0.002	0.002
Zn	(mg/L)	0.5	0.100	0.100	0.110	0.806	0.360	0.260	0.180	0.030	0.310	0.665	0.340	0.202
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	7.2	7.8	7.4	7.8	7.9	7.8	7.7	7.4	7.4	7.0	7.2

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	5893	8728	15980	21580	16780	24610	15500	14700	12310	18920	10600	8648
TSM	(mg/L)	25	0.900	1.200	0.600	1.000	1.500	0.900	1.300	1.200	1.000	1.000	0.700	0.600
As	(mg/L)	0.5	0.003	0.002	0.002	0.002	0.003	0.003	0.002	0.002	-	0.002	0.002	0.002
Cu	(mg/L)	0.3	0.037	0.025	0.024	0.029	0.030	0.019	0.015	0.010	-	0.020	0.083	0.022
Ni	(mg/L)	0.5	0.002	0.002	0.002	0.003	0.008	0.002	0.002	0.002	-	0.002	0.002	0.003
Pb	(mg/L)	0.2	0.002	0.009	0.002	0.002	0.002	0.003	0.002	0.005	-	0.002	0.002	0.002
Zn	(mg/L)	0.5	0.070	0.180	0.340	0.310	0.420	0.140	0.200	0.130	0.490	0.250	0.290	0.190
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	7.3	7.2	8.3	7.5	7.8	7.8	7.4	7.8	7.8	7.6	7.7

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Konuto	**Latitude/Longitude**	
Company Name	HUDSON BAY MINING AND SMELTING CO., LTD	**Sector/Product**	Base Metals / Copper
Operator Name	Hudson Bay Mining and Smelting Co. Ltd	**Regulatory Status**	Regulations
Location	Near Denare Beach, Saskatchewan	**Effluent Discharge**	
Comments	Began production July 1999. In 2000: No discharge in January, February and December		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	-	-	-	-	-	-	0	0	0	500	0	0
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	27.000	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.001	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	0.090	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.010	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	0.040	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.120	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	8.0	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	500	800	3600	3100	4100	2400	2150	2350	2200	0
TSM	(mg/L)	25	-	-	10.000	16.000	20.000	36.000	62.000	45.000	41.000	41.000	26.000	
As	(mg/L)	0.5	-	-	0.001	0.001	0.002	0.002	0.001	0.002	0.002	0.003	0.002	-
Cu	(mg/L)	0.3	-	-	0.060	0.110	0.110	0.110	0.120	0.090	0.090	0.090	0.070	-
Ni	(mg/L)	0.5	-	-	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.010	0.010	-
Pb	(mg/L)	0.2	-	-	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	-	-
Zn	(mg/L)	0.5	-	-	0.130	0.090	0.050	0.080	0.060	0.050	0.080	0.050	0.040	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	7.7	9.0	8.6	8.6	8.6	8.7	8.9	8.9	8.3	-

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	*Lac Matagami*	**Latitude/Longitude**	49 43 N / 77 43 W
Company Name	NORANDA INC.	**Sector/Product**	Base Metals / Zinc-Copper
Operator Name	Noranda Inc.	**Regulatory Status**	Guidelines
Location	Matagami, Québec	**Effluent Discharge**	Final Effluent
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	16992	15696	15019	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	3.000	2.000	1.000	5.000	5.000	3.000	2.000	4.000	4.000	6.000	3.000	2.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.010	0.010	0.010	0.010	0.010	0.010	0.020	0.010	0.010	0.010	0.020	0.010
Ni	(mg/L)	0.5	0.020	0.030	0.020	0.030	0.010	0.010	0.010	0.020	0.020	0.030	0.010	0.020
Pb	(mg/L)	0.2	0.040	0.030	0.040	0.030	0.020	0.010	0.020	0.030	0.030	0.030	0.010	0.010
Zn	(mg/L)	0.5	0.080	0.340	0.050	0.150	0.090	0.040	0.020	0.040	0.040	0.230	0.020	0.030
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.7	8.8	9.0	9.2	8.9	8.4	8.2	6.3	6.3	8.5	8.6	9.1

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	21925	22885	34370	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	3.000	2.000	4.000	10.000	3.000	3.000	2.000	2.000	2.000	3.000	2.000	2.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.020	0.020	0.020	0.020	0.010	0.010	0.020	0.010	0.020	0.020	0.010	0.030
Ni	(mg/L)	0.5	0.020	0.030	0.030	0.010	0.020	0.020	0.020	0.010	0.010	0.030	0.040	0.020
Pb	(mg/L)	0.2	0.010	0.010	0.040	0.010	0.020	0.030	0.030	0.010	0.030	0.020	0.030	0.030
Zn	(mg/L)	0.5	0.020	0.020	0.030	0.310	0.160	0.090	0.070	0.020	0.060	0.050	0.410	0.190
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.1	9.1	9.0	8.6	7.3	8.3	7.8	7.9	7.7	8.2	7.3	8.4

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Lac Tio	**Latitude/Longitude**	50 33 N / 63 25 W
Company Name	QIT FER ET TITANE INC.	**Sector/Product**	Iron / Iron-Titanium
Operator Name	QIT-Fer et Titane Inc.	**Regulatory Status**	Guidelines
Location	Havre St-Pierre, Québec	**Effluent Discharge**	Mine Water
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	-	-	-	-	0	-	-	-	-
TSM	(mg/L)	25	-	-	-	52.000	17.000	194.000	14.500	-	45.200	1825.900	2.700	1.000
As	(mg/L)	0.5	-	-	-	0.005	0.001	0.001	0.001	-	0.001	0.001	0.001	0.005
Cu	(mg/L)	0.3	-	-	-	0.030	0.010	0.001	0.010	-	0.010	0.430	0.010	0.010
Ni	(mg/L)	0.5	-	-	-	0.180	0.150	0.020	0.300	-	0.150	1.000	0.010	0.190
Pb	(mg/L)	0.2	-	-	-	0.010	0.100	0.001	0.010	-	0.100	0.013	0.004	0.010
Zn	(mg/L)	0.5	-	-	-	0.010	0.010	0.010	0.030	-	0.030	0.260	0.010	0.020
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	7.7	7.4	7.6	7.6	-	7.7	7.7	7.6	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	1824	33184	23976	31998	24444	27402	18900	22944	45202	57792	82056
TSM	(mg/L)	25	-	14.000	44.000	15.000	10.000	6.000	5.500	37.500	13.300	11.600	45.500	250.000
As	(mg/L)	0.5	-	0.001	0.001	0.001	0.001	0.001	0.010	-	0.020	0.001	0.100	0.100
Cu	(mg/L)	0.3	-	15.000	0.080	0.050	0.004	0.010	0.010	-	0.020	0.004	0.020	3.600
Ni	(mg/L)	0.5	-	0.360	0.370	0.300	0.160	0.220	0.310	-	0.190	0.260	0.160	0.170
Pb	(mg/L)	0.2	-	1.400	0.009	0.005	0.001	0.001	0.010	-	0.010	0.001	0.100	0.370
Zn	(mg/L)	0.5	-	0.820	0.010	0.030	0.010	0.010	0.010	-	0.010	0.090	0.020	0.190
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	7.7	7.7	7.7	7.7	7.6	7.6	7.6	7.7	7.6	7.5	7.9

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Les Mines Selbaie	**Latitude/Longitude**	49 41 N / 78 57 W
Company Name	GENCOR LTD.	**Sector/Product**	Base Metals / Copper-Zinc-Gold-Silver
Operator Name	Billiton Metals Canada Inc.	**Regulatory Status**	Regulations
Location	180 km N of Rouyn-Noranda, Québec	**Effluent Discharge**	Polishing Pond Discharge
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	16416	8539	12096	20448	29635	29088	12427	13594	14688	12384	27216	16200
TSM	(mg/L)	25	2.000	3.000	2.000	4.000	2.000	6.000	2.000	4.000	2.000	3.000	3.000	4.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	0.050	-	-	0.050
Cu	(mg/L)	0.3	0.060	0.040	0.030	0.030	0.020	0.040	0.050	0.050	0.050	0.050	0.050	0.050
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	0.050	-	-	0.050
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	0.050	-	-	0.050
Zn	(mg/L)	0.5	0.250	0.410	0.170	0.670	0.950	0.290	0.210	0.100	0.120	0.450	0.170	0.200
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.3	9.7	9.4	9.3	9.0	9.4	9.1	10.0	9.3	9.6	9.3	9.5

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	6509	13680	7272	2995	18648	21024	25142	13392	29952	13738	10944	14443
TSM	(mg/L)	25	4.000	2.000	2.000	2.000	2.000	2.000	2.000	3.000	2.000	3.000	4.000	2.000
As	(mg/L)	0.5	-	-	-	-	-	-	0.030	-	0.030	0.030	-	-
Cu	(mg/L)	0.3	0.040	0.030	0.030	0.110	0.050	0.040	0.030	0.030	0.020	0.020	0.020	0.030
Ni	(mg/L)	0.5	-	-	-	-	-	-	0.030	-	0.300	0.030	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	0.030	-	0.030	0.030	-	-
Zn	(mg/L)	0.5	0.210	0.250	0.120	0.190	0.450	0.310	0.270	0.300	0.200	0.230	0.110	0.210
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.2	9.3	8.8	8.8	8.6	8.8	8.7	8.8	9.1	8.9	9.2	9.3

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Lockerby	**Latitude/Longitude**	46 26 N / 81 19 W
Company Name	FALCONBRIDGE LTD.	**Sector/Product**	Base Metals / Copper-Nickel-Cobalt
Operator Name	Falconbridge Ltd.	**Regulatory Status**	Guidelines
Location	Whitefish, Ontario	**Effluent Discharge**	Mine Water
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1341	1517	1271	1165	1526	1791	1464	1412	1546	1871	2170	2129
TSM	(mg/L)	25	1.300	0.900	1.000	2.100	2.200	0.450	0.700	0.700	0.800	0.700	0.500	0.750
As	(mg/L)	0.5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu	(mg/L)	0.3	0.020	0.100	0.020	0.010	0.018	0.003	0.009	0.021	0.008	0.002	0.003	0.005
Ni	(mg/L)	0.5	0.360	0.355	0.336	0.160	0.360	0.165	0.108	0.105	0.110	0.437	0.245	0.400
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0 001	0.001	0.001	0.001	0 001	0.040	0.001
Zn	(mg/L)	0.5	0.009	0.009	0.019	0.010	0.006	0.008	0.029	0.003	0.007	0.012	0.011	0.018
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.1	7.3	8.3	8.8	7.0	7.1	7.3	7.2	7.2	7.4	7.2	7.4

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1596	2057	2332	1833	2260	2057	1845	1921	2231	2007	1813	1345
TSM	(mg/L)	25	1.000	1.100	1.300	1.300	3.300	2.300	1.900	1.000	0.700	0.900	0.600	0.600
As	(mg/L)	0.5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu	(mg/L)	0.3	0.006	0.009	0.009	0.006	0.010	0.008	0.007	0.004	0.003	0.003	0.020	0.005
Ni	(mg/L)	0.5	0.420	0.150	0.440	0.380	0.400	0.240	0.140	0.080	0.060	0.060	0.160	0.250
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001
Zn	(mg/L)	0.5	0.022	0.012	0.014	0.014	0.012	0.007	0.005	0.008	0.003	0.004	0.004	0.004
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	6.9	7.7	7.0	7.0	7.1	7.0	7.0	7.3	7.2	7.4	7.3

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Louvicourt	**Latitude/Longitude**	48 06 N / 77 30 W
Company Name	NOVICOURT INC.	**Sector/Product**	Base Metals / Copper-Zinc-Silver-Gold
Operator Name	Aur Resources Inc.	**Regulatory Status**	Regulations
Location	Val d'Or, Québec	**Effluent Discharge**	Polishing Pond Discharge
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/day)	-	0	0	0	0	0	25920	0	10896	12888	23916	33413	22440
TSM	(mg/L)	25	-	-	-	-	-	14.400	-	6.300	4.800	2.500	4.800	1.200
As	(mg/L)	0.5	-	-	-	-	-	0.004	-	0.003	0.005	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	0.030	-	0.040	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	0.040	-	0.040	0.040	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	0.010	-	0.010	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	0.010	-	0.020	0.030	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	7.4	-	7.7	7.5	7.6	7.7	8.1

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/day)	-	0	0	0	0	23436	5440	0	17520	19122	22320	22110	22200
TSM	(mg/L)	25	-	-	-	-	15.600	10.400	-	8.100	10.800	9.500	10.900	6.000
As	(mg/L)	0.5	-	-	-	-	0.002	-	-	0.005	-	-	0.010	-
Cu	(mg/L)	0.3	-	-	-	-	0.020	-	-	0.020	-	-	0.030	-
Ni	(mg/L)	0.5	-	-	-	-	0.040	-	-	0.040	-	-	0.040	-
Pb	(mg/L)	0.2	-	-	-	-	0.010	-	-	0.010	-	-	0.010	-
Zn	(mg/L)	0.5	-	-	-	-	0.020	-	-	0.080	-	-	0.060	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	7.4	7.6	-	8.0	7.7	9.3	7.9	8.3

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	McArthur River	**Latitude/Longitude**	57 46 N / 105 03 W
Company Name	CAMECO CORPORATION	**Sector/Product**	Uranium / Uranium
Operator Name	Cameco Corporation	**Regulatory Status**	Regulations
Location	80 km NE of Key Lake, Saskatchewan	**Effluent Discharge**	
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	1.000	1.400	1.100	1.500	1.000	1.000	2.200	2.300	1.500	1.000	1.300	1.000
As	(mg/L)	0.5	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Cu	(mg/L)	0.3	0.001	0.001	0.001	0.090	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Ni	(mg/L)	0.5	0.003	0.002	0.001	0.004	0.003	0.003	0.004	0.004	0.004	0.004	0.005	0.003
Pb	(mg/L)	0.2	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Zn	(mg/L)	0.5	0.034	0.035	0.041	0.045	0.047	0.047	0.052	0.043	0.046	0.039	0.047	0.033
Ra-226	(pCi/L)	10	0.270	0.160	0.220	0.220	0.270	0.300	0.400	0.540	0.540	0.400	0.490	0.350
pH		>6.0	7.2	7.2	7.3	7.3	7.3	7.4	7.6	7.7	7.2	7.3	7.1	7.2

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	1.000	1.000	1.000	1.000	1.000	2.000	1.000	1.000	2.000	2.000	1.000	1.000
As	(mg/L)	0.5	0.001	0.001	0.002	0.002	0.002	0.004	0.003	0.001	0.002	0.003	0.003	0.003
Cu	(mg/L)	0.3	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001
Ni	(mg/L)	0.5	0.004	0.002	0.001	0.002	0.001	0.002	0.002	0.001	0.002	0.002	0.001	0.002
Pb	(mg/L)	0.2	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Zn	(mg/L)	0.5	0.026	0.026	0.024	0.018	0.019	0.012	0.017	0.013	0.013	0.010	0.009	0.022
Ra-226	(pCi/L)	10	0.510	0.700	0.430	0.490	0.220	0.160	0.510	0.510	0.490	1.030	1.220	0.970
pH		>6.0	7.1	7.0	7.1	6.9	7.0	7.2	7.2	7.2	7.2	7.3	7.3	7.2

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	McClean Lake	**Latitude/Longitude**	58 22 N / 103 50 W
Company Name	COGEMA RESOURCES INC.	**Sector/Product**	Uranium / Uranium
Operator Name	Cogema Resources Inc.	**Regulatory Status**	Regulations
Location	Wollaston Lake Area, Saskatchewan	**Effluent Discharge**	JEB WTP Effluent
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	136498	121273	112254	131224	153369	142109	148252	145324	144286	135497	97342	81069
TSM	(mg/L)	25	2.800	5.200	3.400	2.500	1.300	1.300	1.300	1.900	1.400	1.900	2.200	2.200
As	(mg/L)	0.5	0.024	0.025	0.011	0.008	0.012	0.028	0.039	0.038	0.038	0.044	0.026	0.025
Cu	(mg/L)	0.3	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002
Ni	(mg/L)	0.5	0.116	0.146	0.057	0.047	0.058	0.050	0.039	0.045	0.050	0.052	0.054	0.034
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Zn	(mg/L)	0.5	0.016	0.016	0.017	0.017	0.023	0.023	0.022	0.026	0.027	0.032	0.029	0.014
Ra-226	(pCi/L)	10	2.240	5.570	2.000	2.190	1.030	0.890	0.540	0.810	0.590	1.400	1.160	1.400
pH		>6.0	7.1	7.2	7.1	7.1	7.1	7.1	7.1	7.2	7.2	7.5	7.2	7.1

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	136498	121273	112254	131224	153369	142109	148252	145324	144286	135497	97342	81069
TSM	(mg/L)	25	2.800	5.200	3.400	2.500	1.300	1.300	1.300	1.900	1.400	1.900	2.200	3.400
As	(mg/L)	0.5	0.024	0.025	0.011	0.008	0.012	0.028	0.039	0.038	0.038	0.044	0.026	0.025
Cu	(mg/L)	0.3	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002
Ni	(mg/L)	0.5	0.116	0.146	0.057	0.047	0.058	0.050	0.039	0.045	0.050	0.052	0.054	0.034
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Zn	(mg/L)	0.5	0.016	0.016	0.017	0.017	0.023	0.023	0.022	0.026	0.027	0.032	0.029	0.014
Ra-226	(pCi/L)	10	2.240	5.570	2.000	2.190	1.030	0.890	0.540	0.810	0.590	1.400	1.160	1.400
pH		>6.0	7.1	7.2	7.1	7.1	7.1	7.1	7.1	7.2	7.2	7.5	7.2	7.1

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	McClean Lake	**Latitude/Longitude**	58 22 N / 103 50 W
Company Name	COGEMA RESOURCES INC.	**Sector/Product**	Uranium / Uranium
Operator Name	Cogema Resources Inc.	**Regulatory Status**	Regulations
Location	Wollaston Lake Area, Saskatchewan	**Effluent Discharge**	SUE WTP Effluent
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	63051	62143	64446	90787	117442	95453	90512	105495	101736	83607	104899	95915
TSM	(mg/L)	25	4.100	1.400	1.700	2.000	2.500	1.500	2.400	2.200	1.600	1.900	1.800	4.600
As	(mg/L)	0.5	0.001	0.042	0.022	0.039	0.014	0.028	0.030	0.025	0.020	0.036	0.013	0.025
Cu	(mg/L)	0.3	0.002	0.003	0.003	0.011	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.002
Ni	(mg/L)	0.5	0.007	0.014	0.024	0.056	0.006	0.002	0.002	0.002	0.009	0.013	0.023	0.035
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002
Zn	(mg/L)	0.5	0.003	0.002	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.002	0.003	0.002
Ra-226	(pCi/L)	10	0.320	0.590	0.600	0.920	0.700	0.510	0.780	0.890	0.450	0.460	0.540	0.920
pH		>6.0	7.2	7.2	7.2	7.2	7.4	7.4	7.4	7.4	7.3	7.2	7.1	7.1

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	63051	62143	64446	90787	117442	95453	90512	105495	101736	83607	104899	95915
TSM	(mg/L)	25	4.100	1.400	1.700	2.000	2.500	1.500	2.400	2.200	1.600	1.900	1.800	4.600
As	(mg/L)	0.5	0.001	0.042	0.022	0.039	0.014	0.028	0.030	0.025	0.020	0.036	0.013	0.025
Cu	(mg/L)	0.3	0.002	0.003	0.003	0.011	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.002
Ni	(mg/L)	0.5	0.007	0.014	0.024	0.056	0.006	0.002	0.002	0.002	0.009	0.013	0.023	0.035
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002
Zn	(mg/L)	0.5	0.003	0.002	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.002	0.003	0.002
Ra-226	(pCi/L)	10	0.320	0.590	0.600	0.920	0.700	0.510	0.780	0.890	0.450	0.460	0.540	0.920
pH		>6.0	7.2	7.2	7.2	7.2	7.4	7.4	7.4	7.4	7.3	7.2	7.1	7.1

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Mont-Wright	**Latitude/Longitude**	52 46 N / 67 20 W
Company Name	QUÉBEC CARTIER MINING COMPANY	**Sector/Product**	Iron / Iron
Operator Name	Québec Cartier Mining Company	**Regulatory Status**	Guidelines
Location	Fermont, Québec	**Effluent Discharge**	Mine Water, Lake Hesse South, HS-1
Comments	1999: As, Cu, Pb, Ni and Zn given for June only. 2000: As, Cu, Pb, Ni and Zn given for February and June only		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/hour)	-	48000	48000	48000	140640	1047360	452640	401400	450000	372960	411192	55992	54000
TSM	(mg/L)	25	2.000	2.000	0.100	3.500	5.800	1.900	6.500	7.800	2.300	2.300	6.200	0.750
As	(mg/L)	0.5	-	-	-	-	-	0.001	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	0.010	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	0.010	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	0.050	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	0.040	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.9	7.0	7.0	7.1	6.9	7.0	7.4	6.7	7.0	7.3	7.9	7.4

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/hour)	-	1925	950	860	3150	24480	24125	8100	4060	11425	9700	3340	1300
TSM	(mg/L)	25	1.200	1.900	1.700	4.100	13.500	6.300	5.400	6.500	8.100	5.400	5.600	2.300
As	(mg/L)	0.5	-	0.001	-	-	-	0.001	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	0.010	-	-	-	0.100	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	0.010	-	-	-	0.020	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	0.050	-	-	-	0.050	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	0.010	-	-	-	0.010	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.1	7.1	7.7	7.2	7.1	7.1	7.3	7.1	7.3	7.7	7.5	6.8

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Mont-Wright	**Latitude/Longitude**	52 46 N / 67 20 W
Company Name	QUÉBEC CARTIER MINING COMPANY	**Sector/Product**	Iron / Iron
Operator Name	Québec Cartier Mining Company	**Regulatory Status**	Guidelines
Location	Fermont, Québec	**Effluent Discharge**	Mine Water, Mont-Wright West, LW-1
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/hour)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	2.000	-	1.000	1.000	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	0.001	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	0.010	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	0.010	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	0.050	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	0.020	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	7.1	-	6.6	-	7.2	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/hour)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	1.000	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	7.1	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Mont-Wright	**Latitude/Longitude**	52 46 N / 67 20 W
Company Name	QUÉBEC CARTIER MINING COMPANY	**Sector/Product**	Iron / Iron
Operator Name	Québec Cartier Mining Company	**Regulatory Status**	Guidelines
Location	Fermont, Québec	**Effluent Discharge**	Mine Water, Mont Survie South, MS-2
Comments	1999 & 2000: No sample from January to April, November and December (Frozen). - As,Cu,Pb,Ni, Zn given for June only.		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/hour)	-	-	-	-	-	3960	2784	2352	2592	2880	2256	-	-
TSM	(mg/L)	25	-	-	-	-	3.500	13.000	17.300	5.600	2.300	7.000	-	-
As	(mg/L)	0.5	-	-	-	-	-	0.001	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	0.030	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	0.010	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	0.050	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	0.030	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	6.8	6.8	6.8	6.6	6.6	6.2	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m³/hour)	-	-	-	-	-	379	144	81	81	67	69	-	-
TSM	(mg/L)	25	-	-	-	-	277.600	7.900	7.700	6.700	6.200	7.400	-	-
As	(mg/L)	0.5	-	-	-	-	-	0.001	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	0.010	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	0.040	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	0.050	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	0.010	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	6.2	6.5	6.8	6.7	6.5	6.7	-	-

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Mouska	**Latitude/Longitude**	48 17 N / 78 34 W
Company Name	CAMBIOR INC.	**Sector/Product**	Precious Metals / Gold
Operator Name	Cambior Inc.	**Regulatory Status**	Regulations
Location	Destor, Québec	**Effluent Discharge**	Mine Water
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	2678	2678	2678	2678	2678	2678	2678	2678	2678	2678	2678	2678
TSM	(mg/L)	25	13.000	14.000	10.000	9.000	8.000	8.000	9.000	8.000	7.000	6.000	8.000	4.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.002	-	-
Cu	(mg/L)	0.3	0.050	0.040	0.040	0.020	0.030	0.030	0.030	0.020	0.020	0.020	0.020	0.030
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.040	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	0.010	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	0.010	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	7.5	7.7	7.6	7.8	7.8	7.6	7.7	7.5	7.8	7.8	7.6

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	2678	2678	2678	2678	2678	2678	2678	2678	2678	2678	2678	2678
TSM	(mg/L)	25	4.000	3.000	5.000	6.000	7.000	5.000	5.000	7.000	4.000	12.000	15.000	8.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.030	0.030	0.040	0.030	0.030	0.040	0.010	0.030	0.020	0.020	0.020	0.030
Ni	(mg/L)	0.5	-	-	-	-	-	-	0.040	-	-	-	0.040	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.3	7.7	7.9	7.9	7.9	8.0	7.9	7.6	7.9	7.8	7.8	7.6

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Myra Falls Operations	**Latitude/Longitude**	49 34 N / 125 35 W
Company Name	BOLIDEN WESTMIN (Canada) LIMITED	**Sector/Product**	Base Metals / Copper-Zinc-Gold-Silver
Operator Name	Westmin Resources Limited	**Regulatory Status**	Regulations
Location	Campbell River, British Columbia	**Effluent Discharge**	Myra Pond
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	21074	24854	17990	19765	19649	22224	17601	12439	15956	15937	34670	26832
TSM	(mg/L)	25	7.000	15.000	11.000	5.000	6.000	3.000	6.000	7.000	9.000	7.000	14.000	12.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.013	0.009	0.012	0.022	0.025	0.037	0.016	0.008	0.033	0.013	0.010	0.010
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.010	0.005	0.001	0.002	0.001	0.001	0.001	0.001	0.005	0.005	0.002	0.001
Zn	(mg/L)	0.5	0.066	0.047	0.052	0.143	0.103	0.190	0.079	0.087	0.079	0.159	0.181	0.079
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	10.6	10.6	10.6	10.5	10.6	10.5	10.5	10.5	10.6	10.6	10.6	10.7

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	15945	22774	19953	20531	22998	20570	21130	18701	15118	15959	18496	19361
TSM	(mg/L)	25	3.000	10.000	10.000	8.000	3.000	8.000	6.000	9.000	12.000	10.000	13.000	10.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.004	0.007	0.005	0.001	0.001	0.003	0.001	0.001	0.001	0.003	0.006	0.008
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Zn	(mg/L)	0.5	0.044	0.099	0.049	0.041	0.043	0.049	0.029	0.024	0.066	0.038	0.034	0.049
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	0.3	10.4	10.5	10.3	10.5	10.4	10.1	10.5	10.3	10.4	10.4	10.5

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Nanisivik	**Latitude/Longitude**	73 03 N / 84 25 W
Company Name	BREAKWATER RESOURCES LTD.	**Sector/Product**	Base Metals / Zinc-Lead-Silver
Operator Name	Breakwater Resources Ltd.	**Regulatory Status**	Guidelines
Location	Baffin Island, Nunavut	**Effluent Discharge**	Pond Effluent 159 - 4
Comments	Discharged Aug 19 - 28, 1999 inclusive. 2000: Discharged June, July and August		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	0	0	0	0	0	44604	0	0	0	0
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	0.010	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	0.093	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	6.8	-	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	0	0	0	-	-	-	0	0	0	0
TSM	(mg/L)	25	-	-	-	-	-	1.700	5.400	6.000	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	0.005	0.005	0.006	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	0.103	0.012	0.084	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	7.5	7.8	7.3	-	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Niobec	**Latitude/Longitude**	48 32 N / 71 09 W
Company Name	TECK CORPORATION & CAMBIOR INC.	**Sector/Product**	Base Metals / Niobium
Operator Name	Teck Corporation	**Regulatory Status**	Regulations
Location	St-Honoré, Québec	**Effluent Discharge**	Mine Water
Comments	From October 1999 to March 2000, Tailings pond and mine water effluents were combined		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	1890	2068	1806	2090	1888	2089	1941	2086	1925	1800	0	0
TSM	(mg/L)	25	16.000	15.000	13.000	13.000	11.000	11.000	14.000	13.000	8.000	7.000	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.050	0.100	0.040	0.033	0.040	0.050	0.040	0.040	0.050	0.010	-	-
Ni	(mg/L)	0.5	-	-	0.040	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.040	0.140	0.040	0.040	0.040	0.040	0.050	0.040	0.040	0.040	-	-
Zn	(mg/L)	0.5	-	-	0.040	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	8.0	7.8	7.9	7.9	7.9	7.8	7.9	7.9	7.8	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	2000	2000	1850	2000	1960	2000	2100	1960	1925
TSM	(mg/L)	25	-	-	-	10.000	11.000	12.000	12.000	20.000	18.000	16.000	14.000	18.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	0.007	0.010	0.010	0.010	0.010	0.001	0.010	0.010	0.040
Ni	(mg/L)	0.5	-	-	-	0.040	-	-	0.020	-	-	-	0.020	-
Pb	(mg/L)	0.2	-	-	-	0.040	0.030	0.030	0.030	0.030	0.030	0.040	0.030	0.030
Zn	(mg/L)	0.5	-	-	-	0.030	-	-	0.030	-	-	-	0.040	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	7.8	7.8	8.0	7.8	7.9	7.7	7.7	7.6	7.6

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Niobec	**Latitude/Longitude**	48 32 N / 71 09 W
Company Name	TECK CORPORATION & CAMBIOR INC.	**Sector/Product**	Base Metals / Niobium
Operator Name	Teck Corporation	**Regulatory Status**	Regulations
Location	St-Honoré, Québec	**Effluent Discharge**	Tailings Pond
Comments	From October 1999 to March 2000, Tailings pond and mine water effluents were combined		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	2875	2300	4460	10600	5000	3940	1125	3200	2580	3700	0	0
TSM	(mg/L)	25	13.000	6.000	8.000	11.000	8.000	5.000	4.000	3.000	6.000	6.000	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.017	0.053	0.020	0.010	0.007	0.010	0.010	0.010	0.010	0.010	-	-
Ni	(mg/L)	0.5	-	-	0.040	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.040	0.200	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	-	-
Zn	(mg/L)	0.5	-	-	0.020	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	7.9	7.8	7.9	7.9	7.8	8.1	8.0	7.9	7.9	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	8338	3507	993	2678	5258	3872	3587	4223	5941
TSM	(mg/L)	25	-	-	-	10.000	8.000	6.000	4.000	10.000	6.000	7.000	10.000	8.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	0.007	0.006	0.010	0.020	0.010	0.010	0.010	0.010	0.010
Ni	(mg/L)	0.5	-	-	-	0.040	-	-	0.020	-	-	-	0.020	-
Pb	(mg/L)	0.2	-	-	-	0.030	0.030	0.040	0.030	0.030	0.040	0.030	0.030	0.030
Zn	(mg/L)	0.5	-	-	-	0.020	-	-	0.010	-	-	-	0.010	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	7.8	8.0	8.2	8.0	7.9	8.0	7.8	7.8	7.5

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Niobec	**Latitude/Longitude**	48 32 N / 71 09 W
Company Name	TECK CORPORATION & CAMBIOR INC.	**Sector/Product**	Base Metals / Niobium
Operator Name	Teck Corporation	**Regulatory Status**	Regulations
Location	St-Honoré, Québec	**Effluent Discharge**	Combined Effluent
Comments	From October 1999 to March 2000, Tailings pond and mine water effluents were combined		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	14571	8771	6877
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	11.000	14.000	20.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	0.010	0.007	0.010
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	0.040	0.120	0.040
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	7.9	7.7	7.6

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	5246	4628	8926	0	0	0	0	0	0	0	0	0
TSM	(mg/L)	25	34.000	15.000	24.000	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.007	0.007	0.007	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	0.040	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.040	0.040	0.060	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	0.020	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	7.7	7.8	-	-	-	-	-	-	-	-	-

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Nolin Creek Treatment Plant	**Latitude/Longitude**	46 30 N / 81 00 W
Company Name	INCO LIMITED	**Sector/Product**	Base Metals / Nickel-Copper-Cobalt-Plat.
Operator Name	Inco Limited	**Regulatory Status**	Guidelines
Location	Copper Cliff, Ontario	**Effluent Discharge**	Nolin Creek
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	8091	17570	13980	22240	6710	18390	17710	17280	0	15190	11260	15500
TSM	(mg/L)	25	3.400	3.500	3.900	3.400	3.500	3.500	2.200	4.800	-	1.800	3.100	3.000
As	(mg/L)	0.5	0.001	0.001	0.001	0.001	0.001	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	0.060	0.050	0.080	0.050	0.020	0.070	0.030	0.010	-	0.040	0.070	0.070
Ni	(mg/L)	0.5	0.190	0.450	0.430	0.400	0.140	0.400	0.140	0.100	-	0.240	0.310	0.450
Pb	(mg/L)	0.2	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	-	0.020	0.020	0.020
Zn	(mg/L)	0.5	0.006	0.006	0.006	0.006	0.006	0.012	0.012	0.008	-	0.007	0.006	0.005
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.3	8.6	8.1	8.4	7.2	7.5	8.3	8.6	-	8.5	7.9	8.5

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	8559	7480	28090	16690	16090	5765	12490	12340	13410	16520	14890	10630
TSM	(mg/L)	25	3.200	3.800	4.500	3.200	3.300	3.600	5.100	3.000	3.200	3.000	3.000	3.400
As	(mg/L)	0.5	-	-	-	-	0.000	-	0.001	-	0.001	0.000	0.001	0.001
Cu	(mg/L)	0.3	0.037	0.026	0.136	0.033	0.032	-	0.021	0.004	0.023	0.014	0.034	0.042
Ni	(mg/L)	0.5	0.400	0.400	0.770	0.220	0.180	-	0.150	0.090	0.130	0.090	0.190	0.370
Pb	(mg/L)	0.2	0.020	0.020	0.020	0.020	0.020	-	0.020	0.020	0.020	0.020	0.020	0.030
Zn	(mg/L)	0.5	0.010	0.006	0.009	0.006	0.010	-	0.009	0.006	0.009	0.006	0.006	0.021
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	8.2	8.3	8.7	8.7	8.6	8.8	8.8	8.5	8.7	8.6	8.6

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Polaris	**Latitude/Longitude**	75 23 N / 96 56 W
Company Name	COMINCO LTD.	**Sector/Product**	Base Metals / Lead-Zinc
Operator Name	Cominco Ltd.	**Regulatory Status**	Regulations
Location	Little Cornwallis Island, Nunavut	**Effluent Discharge**	Sample Station 262-7
Comments	1999: Discharged only in July, August and September, 2000: Discharged only in July, August and September		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	0	0	0	0	772290	1185408	446389	0	0	0
TSM	(mg/L)	25	-	-	-	-	-	-	1.000	7.000	18.700	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	0.001	0.001	0.001	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	0.001	0.005	0.005	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	0.003	0.003	0.004	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	0.017	0.023	0.012	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	0.240	0.150	0.220	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	8.5	7.9	7.9	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	0	0	0	0	451700	2051600	1735600	0	0	0
TSM	(mg/L)	25	-	-	-	-	-	-	-	4.000	0.000	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	0.001	0.001	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	0.001	0.001	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	0.003	0.000	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	0.007	0.007	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	0.170	0.230	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	8.1	8.1	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Principale	**Latitude/Longitude**	49 51 N / 74 19.5 W
Company Name	CAMPBELL RESOURCES INC.	**Sector/Product**	Precious Metals / Gold-Copper
Operator Name	Meston Resources Inc.	**Regulatory Status**	Guidelines
Location	Chibougamau, Québec	**Effluent Discharge**	Effluent #2
Comments	1999: No discharge from January to April - No data for October and December.		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	5.000	1.200	4.000	4.000	3.000	-	5.000	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	0.050	0.300	0.150	0.170	0.180	-	0.190	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	0.040	0.040	0.050	0.050	0.040	-	0.040	-
Zn	(mg/L)	0.5	-	-	-	-	0.010	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	5.6	6.9	7.8	7.4	7.1	-	7.7	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	-	-	-	-	-	-	-	-	-	-	0
TSM	(mg/L)	25	-	3.000	3.000	3.000	4.900	4.400	6.800	3.700	5.700	4.300	4.700	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	0.200	0.200	0.100	0.320	0.150	0.170	0.190	0.180	0.200	0.230	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	0.040	0.040	0.040	-	0.010	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	6.3	7.2	7.2	7.5	6.8	6.8	7.0	6.9	7.3	7.6	-

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Rabbit Lake	**Latitude/Longitude**	58 10 N / 103 40 W
Company Name	CAMECO CORPORATION	**Sector/Product**	Uranium / Uranium
Operator Name	Cameco Corporation	**Regulatory Status**	Regulations
Location	Saskatoon, Saskatchewan	**Effluent Discharge**	Treated Mill Effluent Station 2.3.3
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	206237	190210	213402	278316	287660	182995	1001219	151597	258098	286053	268920	266501
TSM	(mg/L)	25	2.250	2.250	3.000	3.250	1.600	2.400	2.500	1.600	2.000	3.400	4.750	4.000
As	(mg/L)	0.5	0.059	0.025	0.057	0.048	0.082	0.043	0.105	0.060	0.034	0.045	0.086	0.027
Cu	(mg/L)	0.3	0.003	0.005	0.004	0.005	0.004	0.003	0.006	0.007	0.004	0.005	0.008	0.007
Ni	(mg/L)	0.5	0.056	0.059	0.069	0.088	0.076	0.055	0.125	0.120	0.094	0.117	0.089	0.047
Pb	(mg/L)	0.2	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Zn	(mg/L)	0.5	0.006	0.014	0.005	0.007	0.005	0.006	0.006	0.007	0.005	0.007	0.005	0.005
Ra-226	(pCi/L)	10	0.220	0.140	0.270	0.270	0.220	0.160	0.140	0.540	0.140	0.270	0.160	0.140
pH		>6.0	7.2	7.2	7.1	7.1	7.4	7.1	7.2	7.4	7.3	7.2	7.2	7.2

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	4.800	2.000	3.000	2.700	2.500	2.400	2.000	1.500	2.700	2.000	1.800	3.000
As	(mg/L)	0.5	0.059	0.033	0.041	0.167	0.079	0.115	0.084	0.046	0.071	0.070	0.074	0.054
Cu	(mg/L)	0.3	0.005	0.004	0.003	0.001	0.003	0.002	0.002	0.004	0.003	0.003	0.002	0.003
Ni	(mg/L)	0.5	0.070	0.080	0.056	0.080	0.104	0.143	0.081	0.146	0.135	0.138	0.128	0.016
Pb	(mg/L)	0.2	0.002	0.002	0.002	0.002	0.002	0.002	0.002	-	-	0.002	-	0.008
Zn	(mg/L)	0.5	0.005	0.005	0.005	0.004	0.005	0.005	0.005	0.005	0.005	0.007	0.006	0.005
Ra-226	(pCi/L)	10	0.240	0.220	0.130	0.270	-	0.540	-	-	-	-	-	-
pH		>6.0	7.1	7.3	7.2	7.2	7.2	7.0	7.1	6.9	7.0	7.3	7.2	7.1

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Ruttan	**Latitude/Longitude**	56 40 N / 99 38 W
Company Name	HUDSON BAY MINING AND SMELTING CO., LTD	**Sector/Product**	Base Metals / Copper-Zinc
Operator Name	Hudson Bay Mining and Smelting Co. Ltd	**Regulatory Status**	Guidelines
Location	20 km East of Leaf Rapids, Manitoba	**Effluent Discharge**	Brehaut Lake Outfall
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	0	0	0	522288	917352	1000115	1045224	950832	800755	0
TSM	(mg/L)	25	-	-	-	-	-	6.500	5.700	4.800	5.500	4.500	5.000	-
As	(mg/L)	0.5	-	-	-	-	-	0.002	0.002	0.001	0.002	0.001	0.001	-
Cu	(mg/L)	0.3	-	-	-	-	-	0.010	0.010	0.030	0.010	0.010	0.010	-
Ni	(mg/L)	0.5	-	-	-	-	-	0.010	0.010	0.010	0.010	0.010	0.010	-
Pb	(mg/L)	0.2	-	-	-	-	-	0.040	0.040	0.040	0.040	0.040	0.040	-
Zn	(mg/L)	0.5	-	-	-	-	-	0.050	0.034	0.060	0.018	0.050	0.160	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	7.6	7.7	7.6	7.6	7.4	7.3	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	0	0	0	0	2186957	3153816	3814711	3429691	5341464	4116701	168480	0
TSM	(mg/L)	25	-	-	-	-	5.250	6.750	5.250	5.170	4.500	7.750	-	-
As	(mg/L)	0.5	-	-	-	-	0.003	0.001	0.001	0.002	0.001	0.002	-	-
Cu	(mg/L)	0.3	-	-	-	-	0.010	0.010	0.010	0.010	0.015	0.010	-	-
Ni	(mg/L)	0.5	-	-	-	-	0.010	0.010	0.010	0.010	0.010	0.010	-	-
Pb	(mg/L)	0.2	-	-	-	-	0.045	0.043	0.048	0.040	0.040	0.040	-	-
Zn	(mg/L)	0.5	-	-	-	-	0.355	0.268	0.153	0.037	0.030	0.028	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	7.0	6.8	7.4	7.5	7.4	7.5	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Scully	**Latitude/Longitude**	52 55 N / 67 10 W
Company Name	STELCO INC.	**Sector/Product**	Iron / Iron
Operator Name	Cleveland-Cliffs Inc.	**Regulatory Status**	Guidelines
Location	Wabush, Newfoundland and Labrador	**Effluent Discharge**	East Pit No.1
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	0.450	0.290	5.790	1.130	0.430	2.020	0.370	1.680	2.520	1.140	0.280	0.860
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.5	6.5	5.3	6.0	6.7	6.6	6.7	-	6.6	6.6	6.2	6.2

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	0.420	0.570	0.450	1.670	2.580	1.500	1.000	4.500	1.800	3.200	1.250	2.400
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.4	6.5	6.4	6.3	7.5	7.4	7.4	7.3	7.3	7.3	7.1	6.9

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Scully	**Latitude/Longitude**	52 55 N / 67 10 W
Company Name	STELCO INC.	**Sector/Product**	Iron / Iron
Operator Name	Cleveland-Cliffs Inc.	**Regulatory Status**	Guidelines
Location	Wabush, Newfoundland and Labrador	**Effluent Discharge**	East Pit No. 2
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	2.650	0.900	0.700	1.200	1.900	8.600	0.600	0.200	0.700
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	6.0	6.3	6.1	6.1	-	6.6	6.2	6.0	6.0

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	1.100	-	-	1.260	2.960	2.750	2.750	5.250	5.600	4.750	3.250	1.400
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.1	-	-	6.1	6.8	6.1	6.9	7.0	7.0	6.7	6.7	6.8

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Scully	**Latitude/Longitude**	52 55 N / 67 10 W
Company Name	STELCO INC.	**Sector/Product**	Iron / Iron
Operator Name	Cleveland-Cliffs Inc.	**Regulatory Status**	Guidelines
Location	Wabush, Newfoundland and Labrador	**Effluent Discharge**	Flora Lake
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	1.300	1.200	0.490	6.800	2.900	6.000	1.250	2.750	3.200	5.500	1.500	4.750
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.5	6.5	6.5	6.3	7.0	7.0	7.4	7.4	7.3	7.2	7.3	7.6

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	1.300	1.200	0.490	6.800	2.900	6.000	1.250	2.750	3.200	5.500	1.500	4.750
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.5	6.5	6.5	6.3	7.0	7.0	7.4	7.4	7.3	7.2	7.3	7.6

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Scully	**Latitude/Longitude**	52 55 N / 67 10 W
Company Name	STELCO INC.	**Sector/Product**	Iron / Iron
Operator Name	Cleveland-Cliffs Inc.	**Regulatory Status**	Guidelines
Location	Wabush, Newfoundland and Labrador	**Effluent Discharge**	South Pit
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	0.840	0.230	0.740	0.220	0.400	1.430	0.590	1.410	2.770	1.140	16.100	1.020
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.6	6.7	6.2	6.6	6.6	6.5	6.5	-	6.6	6.7	6.7	6.2

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	0.720	0.740	0.630	0.650	2.200	1.250	1.000	1.250	3.800	8.500	5.000	2.000
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.6	6.7	6.4	6.6	7.5	7.2	7.0	7.3	7.3	7.3	7.1	7.3

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Sigma #2	**Latitude/Longitude**	48 06 N / 77 45 W
Company Name	McWATTERS MINING INC.	**Sector/Product**	Precious Metals / Gold
Operator Name	McWatters Mining Inc.	**Regulatory Status**	Regulations
Location	Val d'Or, Québec	**Effluent Discharge**	Mine Water, Site-1
Comments	No discharge in 2000		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	0	0	0	1627	0	0	0	0
TSM	(mg/L)	25	-	-	-	-	-	-	-	5.500	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	0.003	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	0.010	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	0.040	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	0.010	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	0.010	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	8.2	-	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	0	0	0	0	0	0	0	0
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Sigma #2	**Latitude/Longitude**	48 06 N / 77 45 W
Company Name	McWATTERS MINING INC.	**Sector/Product**	Precious Metals / Gold
Operator Name	McWatters Mining Inc.	**Regulatory Status**	Regulations
Location	Val d'Or, Québec	**Effluent Discharge**	Mine Water, Site-2
Comments	No discharge in 2000		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	0	0	0	1257	0	0	0	0
TSM	(mg/L)	25	-	-	-	-	-	-	-	5.200	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	0.002	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	0.010	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	0.020	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	0.040	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	0.010	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	7.8	-	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	0	0	0	0	0	0	0	0	0	0	0	0
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Snip	**Latitude/Longitude**	56 40 N / 131 05 W
Company Name	PRIME RESOURCES GROUP INC.	**Sector/Product**	Precious Metals / Gold-Silver
Operator Name	Homestake Canada Inc.	**Regulatory Status**	Regulations
Location	56 air miles North of Stewart, British Columbia	**Effluent Discharge**	Tailings Pond Discharge
Comments	Mine closed in 2000		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	0	-	0	-	-	-	-	-	0	0	0
TSM	(mg/L)	25	10.000	-	4.000	-	9.000	47.000	5.000	117.000	76.000	-	-	-
As	(mg/L)	0.5	0.040	-	0.040	-	0.060	0.040	0.090	0.060	0.090	-	-	-
Cu	(mg/L)	0.3	0.003	-	0.003	-	0.004	0.030	0.003	0.018	0.017	-	-	-
Ni	(mg/L)	0.5	0.010	-	0.010	-	0.010	0.010	0.010	0.010	0.010	-	-	-
Pb	(mg/L)	0.2	0.001	-	0.003	-	0.002	0.030	0.004	0.025	0.038	-	-	-
Zn	(mg/L)	0.5	0.010	-	0.010	-	0.020	0.060	0.010	0.060	0.080	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.9	-	7.8	-	7.9	8.0	8.2	8.2	8.1	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Strathcona (Moose Lake)	**Latitude/Longitude**	46 40 N / 81 20.5 W
Company Name	FALCONBRIDGE LTD.	**Sector/Product**	Base Metals / Nickel-Copper-Cobalt-Plat.
Operator Name	Falconbridge Ltd.	**Regulatory Status**	Guidelines
Location	Onaping, Ontario	**Effluent Discharge**	
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	64600	88230	82820	87770	32110	48230	34110	30960	37940	45970	44250	88190
TSM	(mg/L)	25	1.190	0.500	0.800	0.500	0.700	0.700	1.100	0.970	0.670	0.500	0.550	0.470
As	(mg/L)	0.5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cu	(mg/L)	0.3	0.030	0.040	0.040	0.030	0.010	0.010	0.010	0.010	0.006	0.010	0.010	0.020
Ni	(mg/L)	0.5	0.050	0.090	0.090	0.070	0.050	0.050	0.040	0.040	0.040	0.080	0.050	0.060
Pb	(mg/L)	0.2	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000
Zn	(mg/L)	0.5	0.004	0.002	0.004	0.008	0.002	0.005	0.004	0.003	0.008	0.008	0.013	0.011
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	7.7	7.6	7.7	7.2	7.6	7.1	7.5	7.4	7.7	8.0	7.9

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	62320	69140	110400	113900	52450	36280	40600	16370	13190	19680	18950	38210
TSM	(mg/L)	25	1.000	0.900	0.800	0.800	0.900	1.500	1.600	1.500	1.500	1.300	0.600	0.900
As	(mg/L)	0.5	0.001	0.001	0.001	0.001	-	0.001	0.000	0.001	0.001	0.001	0.001	0.001
Cu	(mg/L)	0.3	0.012	0.027	0.021	0.016	-	0.010	0.010	0.009	0.008	0.007	0.011	0.010
Ni	(mg/L)	0.5	0.060	0.080	0.090	0.050	-	0.030	0.050	0.060	0.060	0.060	0.090	0.070
Pb	(mg/L)	0.2	0.001	0.001	0.001	0.001	-	0.001	0.004	0.001	0.001	0.001	0.001	0.001
Zn	(mg/L)	0.5	0.010	0.008	0.004	0.002	-	0.001	0.001	0.001	0.002	0.002	0.004	0.002
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	7.2	7.4	7.6	7.7	7.3	7.2	7.2	7.3	7.7	7.6	7.9

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Sullivan	**Latitude/Longitude**	49 42 N / 116 00 W
Company Name	COMINCO LTD.	**Sector/Product**	Base Metals / Zinc-Lead-Silver
Operator Name	Cominco Ltd.	**Regulatory Status**	Guidelines
Location	Kimberley, British Columbia	**Effluent Discharge**	Kootenay
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	17280	17280	20880	26640	34704	29923	29088	27111	28610	29958	30845	27743
TSM	(mg/L)	25	4.200	6.000	2.300	11.500	14.700	5.500	9.600	10.000	10.400	4.800	2.000	5.000
As	(mg/L)	0.5	0.010	0.010	0.004	0.002	0.001	0.002	0.001	0.002	0.002	0.003	0.001	0.001
Cu	(mg/L)	0.3	0.002	0.004	0.002	0.006	0.006	0.004	0.046	0.004	0.003	0.004	0.009	0.005
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.010	0.050	0.014	0.050	0.080	0.018	0.050	0.006	0.053	0.029	0.058	0.021
Zn	(mg/L)	0.5	0.130	0.190	0.040	0.440	0.510	0.220	0.301	0.097	0.270	0.180	0.320	0.210
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.1	9.2	9.1	9.2	9.2	9.4	9.8	9.1	9.2	9.6	9.4	9.4

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	18084	19783	30521	31561	18968	27849	33103	29249	20160	11232	23219	11720
TSM	(mg/L)	25	5.000	9.000	6.000	4.000	2.000	5.000	1.000	3.000	7.000	4.000	4.000	4.000
As	(mg/L)	0.5	0.002	0.004	0.004	0.003	0.003	0.004	0.002	0.010	0.005	0.001	0.004	0.002
Cu	(mg/L)	0.3	0.014	0.003	0.025	0.023	0.008	0.007	0.003	0.012	0.003	0.003	0.026	0.004
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	0.012	0.020	0.032	0.011	0.021	0.023	0.022	0.028	0.036	0.031	0.017	0.017
Zn	(mg/L)	0.5	0.150	0.220	0.210	0.160	0.200	0.180	0.240	0.190	0.290	0.140	0.220	0.170
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.5	9.4	9.6	9.5	9.6	9.6	9.4	9.4	9.4	9.4	9.3	9.5

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Thayer Lindsley	**Latitude/Longitude**	46 30 N / 81 00 W
Company Name	FALCONBRIDGE LIMITED	**Sector/Product**	Base Metals / Nickel-Copper-Platinum
Operator Name	Falconbridge Limited	**Regulatory Status**	Regulations
Location	Falconbridge, Ontario	**Effluent Discharge**	
Comments	No surface effluent		

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	-	-	-	-	-	-	-	-	-	-	-	-
TSM	(mg/L)	25	-	-	-	-	-	-	-	-	-	-	-	-
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	-	-	-	-	-	-	-	-	-	-	-	-

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Thompson Cplx & Birchtree	**Latitude/Longitude**	55 42 N / 97 55 W
Company Name	INCO LIMITED	**Sector/Product**	Base Metals / Nickel-Copper
Operator Name	Inco Limited	**Regulatory Status**	Guidelines
Location	Thompson, Manitoba	**Effluent Discharge**	T3 Culvert
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	1526000	1053000	1540000	1534000	2464000	1675000	353000	1341000	1422000	227000	1577000	1624000
TSM	(mg/L)	25	4.750	4.250	3.800	6.250	3.750	2.250	2.330	0.500	2.600	2.000	12.500	4.250
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	0.245	0.250	0.266	0.348	0.268	0.123	0.113	0.190	0.186	0.158	0.208	0.155
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.1	7.1	7.1	7.1	8.6	8.8	8.6	7.6	7.7	8.2	7.2	6.6

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	1543000	1429000	1540000	1518000	2591000	1675000	1036000	1978000	2150000	1732000	1701000	1546000
TSM	(mg/L)	25	2.500	4.000	7.400	3.500	1.000	2.750	1.750	1.400	3.500	2.500	1.600	1.500
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	0.150	0.177	0.256	0.275	0.246	0.155	0.123	0.194	0.235	0.238	0.226	0.208
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	6.8	6.9	6.9	7.2	7.9	8.2	8.3	7.5	7.5	7.8	7.0	6.9

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Thompson Mill	**Latitude/Longitude**	55 42 N / 97 55 W
Company Name	INCO LIMITED	**Sector/Product**	Base Metals / Nickel-Copper
Operator Name	Inco Limited	**Regulatory Status**	Guidelines
Location	Thompson, Manitoba	**Effluent Discharge**	Tailings Pond Discharge
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	1819812	1819812	1819812	2047289	2274765	2274765	1668161	1668161	2350591	2047289	2047289	2274765
TSM	(mg/L)	25	5.000	2.000	2.200	3.500	2.500	4.750	3.000	1.250	5.200	4.000	5.500	2.800
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	0.265	0.278	0.276	0.235	0.213	0.188	0.180	0.163	0.154	0.190	0.220	0.292
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.5	7.4	7.4	7.5	7.9	8.0	8.0	8.0	7.8	7.8	7.6	7.6

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	2578067	2236854	2343658	2704962	5109535	4235125	3067381	3077746	4275679	3765124	3390949	3184797
TSM	(mg/L)	25	5.000	3.250	2.800	4.250	3.600	4.500	11.250	2.800	3.750	5.500	5.600	6.300
As	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Cu	(mg/L)	0.3	-	-	-	-	-	-	-	-	-	-	-	-
Ni	(mg/L)	0.5	0.483	0.588	0.676	0.658	0.428	0.353	0.288	0.230	0.220	0.293	0.364	0.410
Pb	(mg/L)	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Zn	(mg/L)	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.4	7.4	7.3	7.4	7.7	7.8	8.0	8.0	8.0	7.9	7.8	7.7

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Troilus	**Latitude/Longitude**	51 00 N / 74 30 W
Company Name	INMET MINING CORPORATION	**Sector/Product**	Precious Metals / Gold-Copper
Operator Name	Inmet Corporation	**Regulatory Status**	Regulations
Location	175 km N of Chibougamau, Québec	**Effluent Discharge**	BS-2
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	2873	4738	4104	6084	4925	5328	5411	4579	4889	9184	5916	22230
TSM	(mg/L)	25	7.000	6.000	16.000	19.000	24.000	15.000	13.000	10.000	15.000	14.000	10.000	12.000
As	(mg/L)	0.5	-	-	-	-	0.050	-	-	-	-	-	-	0.050
Cu	(mg/L)	0.3	0.010	0.020	0.030	0.030	0.070	0.030	0.080	0.060	0.020	0.060	0.010	0.050
Ni	(mg/L)	0.5	0.010	0.010	0.010	0.010	0.010	0.020	0.010	0.010	0.040	0.010	0.010	0.070
Pb	(mg/L)	0.2	0.010	0.010	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.060
Zn	(mg/L)	0.5	0.020	0.010	0.010	0.010	0.020	0.010	0.010	0.010	0.010	0.010	0.010	0.070
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.6	7.9	7.9	8.1	8.3	8.2	8.0	8.0	8.4	7.9	7.8	8.9

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	4446	4294	6451	5429	5532	6239	7366	6719	6563	7258	5651	4658
TSM	(mg/L)	25	7.000	9.000	16.000	3.000	6.000	3.000	4.000	4.000	10.000	7.000	8.000	7.000
As	(mg/L)	0.5	-	-	0.050	-	-	-	-	-	0.050	-	-	-
Cu	(mg/L)	0.3	0.030	0.050	0.040	0.040	0.050	0.050	0.030	0.080	0.020	0.050	0.010	0.010
Ni	(mg/L)	0.5	0.010	0.010	0.050	0.020	0.030	0.020	0.010	0.010	0.030	0.010	0.010	0.010
Pb	(mg/L)	0.2	0.040	0.010	0.010	0.010	0.040	0.080	0.020	0.030	0.010	0.050	0.010	0.020
Zn	(mg/L)	0.5	0.010	0.010	0.030	0.010	0.070	0.120	0.040	0.020	0.003	0.040	0.060	0.020
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.9	7.9	7.9	7.8	8.1	8.0	8.0	8.1	8.0	7.9	7.9	7.9

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Troilus	**Latitude/Longitude**	51 00 N / 74 30 W
Company Name	INMET MINING CORPORATION	**Sector/Product**	Precious Metals / Gold-Copper
Operator Name	Inmet Corporation	**Regulatory Status**	Regulations
Location	175 km N of Chibougamau, Québec	**Effluent Discharge**	PR-1
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	23400	35788	28919	21408	24624	29484	29484	27792	0	19502	21315	5339
TSM	(mg/L)	25	17.000	11.000	13.000	14.000	34.000	10.000	8.000	7.000	-	5.000	13.000	12.000
As	(mg/L)	0.5	-	-	-	-	0.050	-	-	-	-	-	-	0.050
Cu	(mg/L)	0.3	0.050	0.040	0.010	0.020	0.030	0.020	0.080	0.070	-	-	0.010	0.010
Ni	(mg/L)	0.5	0.020	0.010	0.040	0.010	0.010	0.010	0.010	0.010	-	-	0.010	0.010
Pb	(mg/L)	0.2	0.010	0.010	0.163	0.010	0.010	0.010	0.010	0.010	-	-	0.010	0.060
Zn	(mg/L)	0.5	0.010	0.020	0.005	0.010	0.020	0.010	0.040	0.010	-	-	0.010	0.030
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	7.8	8.0	8.2	8.0	7.6	7.5	7.5	7.5	-	7.3	8.0	7.9

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/day)	-	24242	21070	24300	20198	12646	12179	23580	15595	11242	0	0	14155
TSM	(mg/L)	25	17.000	9.000	11.000	12.000	8.000	10.000	9.000	15.000	8.000	-	-	10.000
As	(mg/L)	0.5	-	-	0.050	-	-	-	-	-	-	-	-	0.050
Cu	(mg/L)	0.3	0.010	0.010	0.010	0.020	0.010	0.010	0.030	0.050	0.060	-	-	0.010
Ni	(mg/L)	0.5	0.010	0.010	0.020	0.020	0.004	0.100	0.010	0.030	0.030	-	-	0.010
Pb	(mg/L)	0.2	0.040	0.010	0.018	0.010	0.060	0.010	0.030	0.040	0.010	-	-	0.060
Zn	(mg/L)	0.5	0.020	0.010	0.023	0.020	0.070	0.150	0.030	0.030	0.010	-	-	0.030
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	8.7	7.6	8.8	8.6	8.2	7.1	7.1	7.2	7.3	-	-	7.9

Highlighting indicates that a monthly effluent quality standard (MEQS) was exceeded for that month.

Metal Mining Liquid Effluent Regulations (MMLER) & Guidelines (MMLEG)

Monthly Average Effluent Quality Data

Mine/Mill Name	Trout Lake	**Latitude/Longitude**	54 50 N / 101 49 W
Company Name	HUDSON BAY MINING AND SMELTING CO., LTD	**Sector/Product**	Base Metals / Copper-Zinc-Gold-Silver
Operator Name	Hudson Bay Mining and Smelting Co. Ltd	**Regulatory Status**	Regulations
Location	Near Flin Flon, Manitoba	**Effluent Discharge**	Treatment Plant Discharge
Comments			

1999

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	24400	28300	22500	18300	19200	20300	30900	38800	0	1200	24000	24200
TSM	(mg/L)	25	21.500	23.200	24.400	24.500	24.500	21.200	24.200	24.500	-	20.500	20.800	23.500
As	(mg/L)	0.5	0.001	0.001	0.002	-	0.003	0.002	0.004	0.001	-	0.010	0.002	0.004
Cu	(mg/L)	0.3	0.010	0.010	0.012	0.013	0.018	0.012	0.013	0.035	-	0.008	0.014	0.010
Ni	(mg/L)	0.5	0.010	0.014	0.010	0.010	0.010	0.010	0.010	0.010	-	0.006	0.010	0.010
Pb	(mg/L)	0.2	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	-	0.021	0.040	0.040
Zn	(mg/L)	0.5	0.053	0.066	0.022	0.155	0.095	0.136	0.162	0.180	-	0.172	0.230	0.215
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.8	9.8	9.7	8.6	8.6	8.1	8.0	8.0	-	8.5	8.6	8.8

2000

Parameters		Limits	Jan.	Feb.	March	April	May	June	July	August	Sep.	Oct.	Nov.	Dec.
Flow	(m^3/month)	-	24400	21900	22400	27900	23500	44800	27300	22700	29200	24500	24900	21800
TSM	(mg/L)	25	24.250	21.800	20.250	18.000	18.000	20.250	25.000	24.250	23.500	24.500	22.000	24.000
As	(mg/L)	0.5	0.003	0.006	0.001	0.003	0.001	0.005	0.001	0.006	0.001	0.002	0.002	0.002
Cu	(mg/L)	0.3	0.015	0.009	0.010	0.010	0.014	0.010	0.028	0.020	0.013	0.013	0.018	0.015
Ni	(mg/L)	0.5	0.010	0.009	0.010	0.010	0.010	0.010	0.013	0.010	0.010	0.010	0.018	0.010
Pb	(mg/L)	0.2	0.040	0.033	0.040	0.040	0.040	0.040	0.043	0.043	0.040	0.040	0.040	0.040
Zn	(mg/L)	0.5	0.088	0.104	0.038	0.035	0.160	0.170	0.138	0.120	0.073	0.278	0.350	0.158
Ra-226	(pCi/L)	10	-	-	-	-	-	-	-	-	-	-	-	-
pH		>6.0	9.3	9.1	9.1	8.9	8.8	8.5	8.1	8.1	8.8	8.8	9.4	9.6